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This Month's Cover
WILMINGTON, DELAWARE

Wilmington at first was a Swedish colony, named Christinaham for the Queen of Sweden. Its first governor, in 1638, was Peter Minuit, who had been Governor-General of the New Netherlands. In 1655 peg-legged Peter Stuyvesant overawed the small garrison and captured the colony for Holland. In 1664 the English pocketed it with New York. Ignored thereafter till 1731, Christinaham was then laid out by Thomas Willing on a plan resembling Philadelphia. He called it Willingston, later shifted to Wilmington, pleasing a British Earl. In 1739 some shipbuilding started. In 1776 three residents travelled 26 miles up the Delaware to sign the Declaration of Independence. During 1802 a French immigrant who had settled at Wilmington established a powder mill, destined to become the huge E. I. duPont de Nemours & Company. . . . This month's cover of "Dun's Review" was drawn in 1841 from the southeast by B. Glück and lithographed by T. Sinclair. It is from the Phelps Stokes Collection and is reproduced through courtesy of the New York Public Library. The cupola at left is the City Hall; the Ferry House projects at right. . . . Wilmington today has a population of 112,504, seventy-fifth largest in the country. Its 159 manufacturers produce \$57,678,025 worth of goods. There are 160 wholesalers sharing \$135,640,000. Retail stores number 2,026 and ring up \$64,951,000. The service establishments, 825, take in \$5,000,000. Business activity includes shipbuilding, the manufacture of cars, foundry products, chemicals, machinery, and leather; and principal offices of explosive manufacturing companies.



THE GARDEN GATE, GOVERNOR'S PALACE, WILLIAMSBURG, VA.—PHOTOGRAPH FROM CHARLES PHELPS CUSHING

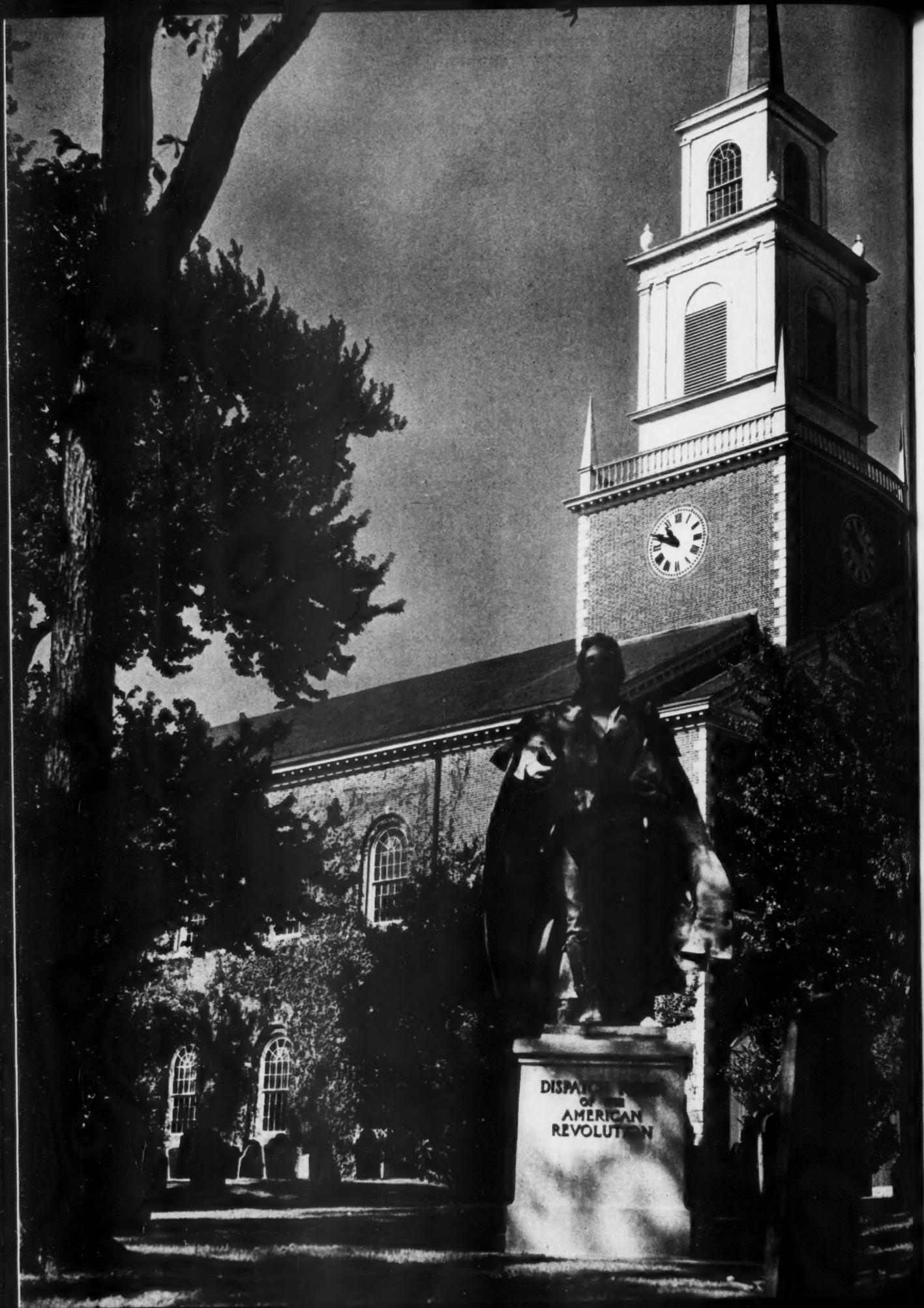
DUN'S REVIEW



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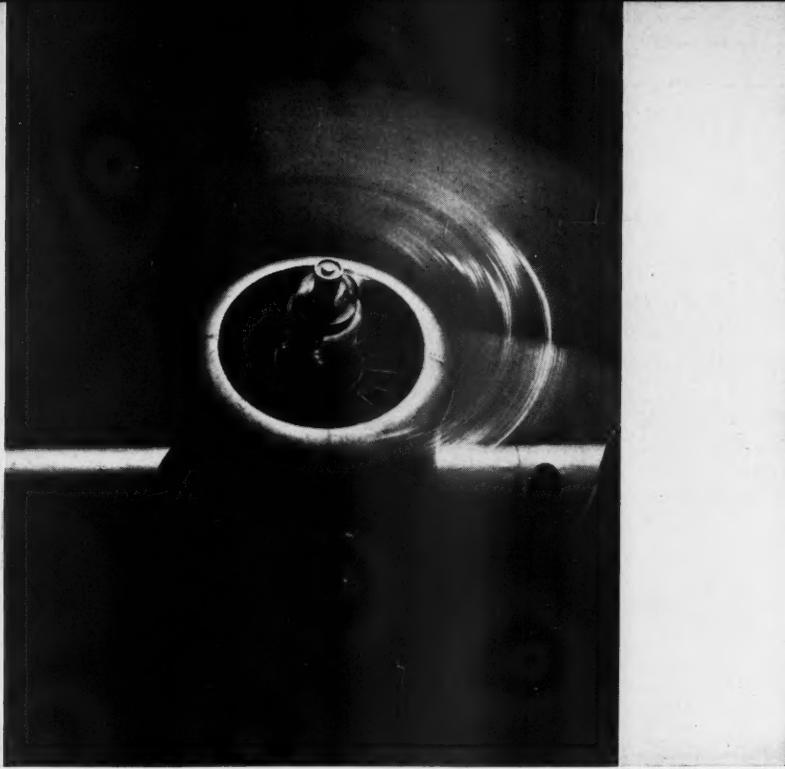


PHOTO BY HOIT FROM CUSHING

THE RÔLE *of* MANAGEMENT as INNOVATOR

WILLARD L. THORP

Trustee, Associated Gas and Electric Corporation; Director of Economic Research, DUN & BRADSTREET, INC.; Editor, DUN'S REVIEW

THE nineteenth century, under the impetus of technology, the compound rate of interest, rapidly increasing population, and the *laissez faire* philosophy, was a period of accelerating economic change. Invention and investment begat more invention and more investment. On logarithmic charts, measures of physical progress were straight lines with steep upward slopes.

The extraordinary material developments in the devices of production were accompanied by revolutionary changes in the forms and methods of business enterprises as they innovated to adapt themselves to the expanding economic world. The century ended in an excited period of mergers, consolidations, and amalgama-

Above the operating problems and policy decisions of every company lie broader questions about the very future of business itself. From a background of responsibilities in the academic, governmental, and business world, the author reviews developments affecting business as a significant force in our social structure and suggests the path that seems likely to encourage a fruitful utilization of its ingenuities.

social power which flowed from such control.

This extraordinary rate of expansion continued to the World War, but there are clear-cut signs of a slackening rate of physical progress since then. To be sure, there have been great developments of new materials and new products. And during the late twenties, once again, giant business enterprises were born. However, many of the long-term curves on the charts never fully resumed their upward sweep after the war.

Lewis Mumford lists 32 inventions or improved processes of primary importance which were developed between 1900 and 1933. The significant fact to us is that 28 of them appeared between 1900 and 1913, and only 4 from 1920 to 1933.¹ This is, of course, no way of measuring the rate of social innovation, nor does the slackening of the rate of physical progress mean a net reduction in the quantitative amount or qualitative character of such change.

Problems of adjustment readily solved in a growth period began to become increasingly pressing however, and people talked of our economic "maturity," a phrase which means to the dictionary researcher, "fully developed in character and power." Just as current forecasts of future population levels indicate a static point a few decades away, perhaps our vaunted economic progress in physical terms is destined to follow the same levelling-off process in its rate of advance.

The opportunity for expanding the net amount of production and the efficiency of its distribution still remains, of course. The fullest exploitation of our present knowledge and capacity may yield quite as much as did the changes which were impelled by the innovations of the inventor and exploiter, for instance, of the steam engine. The present period of economic expansion is proof of the point since full utilization and expansion of capacity is proceeding without fundamental innovation in the methods or machines of production and distribution. This generalization is not true if one regards the growing intermingling of the governmental and business process as innovation.

From an historical point of view, there is no opportunity for a decent argument over the innovations which have been made by business management in the past, unless one wants to argue as to the relative importance of science, the atmosphere of the times, and the attitude of business men. The source of the innovation is not important to this discussion. It is sufficient for our purpose to recognize that the transforming of the original idea into a common everyday product in wide use is largely the work of business management.

Instead of the unchanging status of the Middle Ages, when son was a copy of father in all details—work, play, food, clothing, and even personal habits—our lifetimes have seen revolutionary innovations—the automobile and the electric razor, the vitamin tablet and the nylon-strung tennis racket, the electric two-tone alarm clock and the overseas radio broadcast. Not only are there new products but new processes and procedures—the continuous rolling mill and the supermarket, the automatic accounting machine and the market survey, the seasonally corrected statistical trend chart and the inter-office communication system.

¹ Lewis Mumford, *Technics and Civilization*. New York, 1934. Pages 437-446.

And also business management has changed. The economic order now runs largely under the corporate form of organization. Today, large-scale production, large-scale distribution, and large-scale enterprises are accepted and in most fields dominate the economic system. Giant enterprises, with personnel numbered in thousands, revenues in millions, and markets in national terms, are administered by professional managers, no longer identified with ownership. In fact, any active part played by ownership is often difficult to discover.

Various vested interests have developed. And policies established by the government now reach into many areas heretofore left free for unrestricted choice. Our problem is not of the past but of the present and future. In a world of "large-scales," to what extent will business management continue to be a vigorous factor for change—a radical rather than a conservative force? And finally, in our society, as it moves on into the future, what kind of innovation will be needed, and to what extent can business management supply the need?

TENDENCIES HAMPERING INNOVATION

1. Competition

CERTAIN TENDENCIES IN recent years have hampered the activity of business management as an innovator. Three such developments will be discussed briefly—the changing nature of competition, the rise of vested interests and the government, and increasing organizational resistance.

The first factor affecting the behavior of business management, is the changing character of competition. Competition has always been largely on the side of progress. It has been both a stimulus driving each enterprise ahead and also a mechanism for extending any innovation throughout an industry. To some extent, these two accomplishments are contradictory. The adoption of an innovation by his competitors tends to destroy the advantage to the innovator, but still he can always hope to benefit by a time-lag, sometimes substantial as when he has been able to obtain the seventeen-year patent protection. Thus one individual with imagination may lead an entire industry into new territory. Henry Ford and Harvey Firestone are familiar examples. Sears Roebuck forced a major revolution on the mechanical refrigeration industry when it refused to follow the customary price differentials for size. The English bicycle forced the American bicycle industry out of its lethargy. And the action of U. S. Steel forced a new labor policy for steel.

In this large-scale economic world, it can be questioned as to whether or not competition provides quite



ROCKEFELLER CENTER, NEW YORK—PHOTO FROM CUSHING

"In a world of 'large scales,' to what extent will management continue to be a vigorous factor for change—a radical rather than a conservative force?"

the same stimulus for innovation as when smaller enterprises more clearly struggled against each other for existence. To be sure, the depression made the going much harder and itself was a strong factor encouraging economy and efficiency. But that pressure has been relaxed for several years. And even in those hard times, large enterprises had an established position and a security through accumulated resources which carried them through the period with almost no disappearances from their roster.

Barring the railroads, which are certainly a special case, the number of giant enterprises which have been forced into liquidation or reorganization during the

last decade, is amazingly small. Even in the few cases of financial distress, the reorganization process did not disturb their continued activity as business enterprises. Competition may threaten their profits, but not their survival.

Similarly, the processes of innovation have been discouraged by the shortened time-lag in "meeting competition." Information is today transmitted almost instantaneously. A price change very quickly is industry knowledge. New products do not come as a complete surprise. Some industries have found "patent pooling" to be necessary, thus giving up one of the major forms of time-advantage from innovation. The large enterprise, with its great resources and its skilled specialists, is ready to meet its competitor so quickly that this time advantage is greatly lessened. Why should the business man strain and struggle to make some innovation, if it immediately is to be taken up by other businesses and he gains no differential advantage?

For purposes of consolidation it should be remarked that competitive innovation is not necessarily desirable. Developments which lower cost or improve the quality of a product are clearly socially beneficial. But the emphasis in recent years has not been so much on production as on distribution. In re-

cent years, the business man has not been as troubled by the problem of producing goods as he has been to capture customers. Competition has, therefore, focussed more and more on the selling side of management's activity. Unfortunately, price and quality are not necessarily the deciding considerations in this contest. Inferior products at higher prices can be sold, if the channels of distribution can be captured, and the consumer can be attracted through effective advertising. Thus, factors which discourage expensive ingenuity in selling, particularly when in such forms as price differentials unrelated to cost differentials, excessive concern over packaging, high advertising expenditures and the like, may well be in the social interest.

In one type of situation competition may actually make change more difficult—those in which the failure

of competitors to conform may force the continuance of things as they are. Thus competition is an active force working for price reductions and a deterrent factor against price increases. It is impossible to correct a situation of excessive cash discounts, or extreme installment terms and conditions, so long as any important member in the industry is unwilling to curtail his over-liberal credit policy, and any effort to deal with such a situation co-operatively is unlawful.

Some years ago, the cotton textile industry in the South tried to do away with the grave-yard shift. As I recall, only one important member of the industry was unwilling to join in the plan, but his refusal made it impossible for the program to be undertaken. The potash industry in this country developed under a basing point price system, conforming to the pricing practice inherited from the days when importation was the sole source of supply. It was impossible for any one of the domestic producers to shift to a mill price basis without facing bankruptcy. Action by the Department of Justice, leading to a consent decree, made possible the change through simultaneous industry action with the government's blessing.

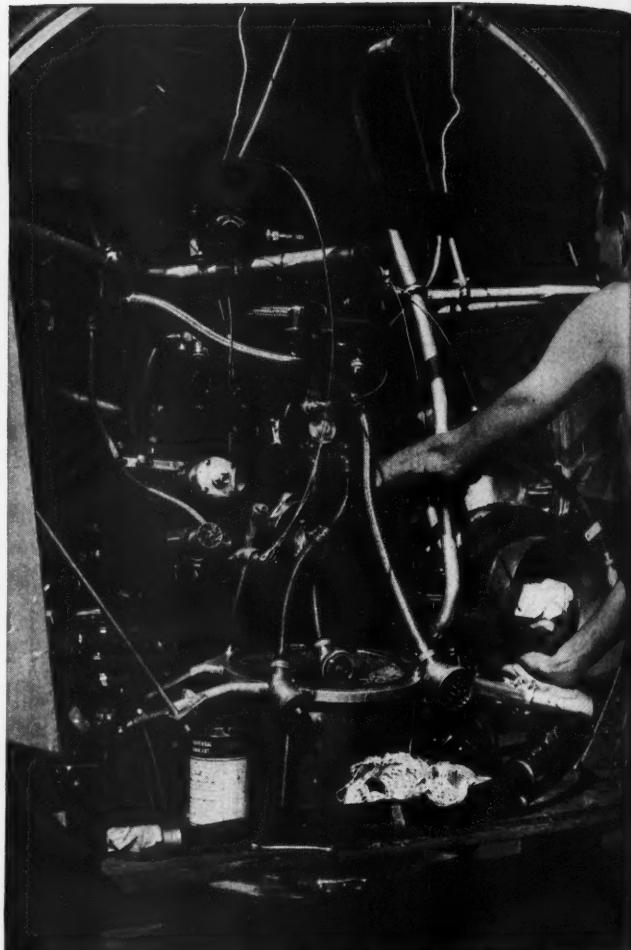
Again, in one of the electric supply industries, the price structure was exceedingly complex with a long list of special group price differentials. One member of the industry made a sincere effort to establish a much simpler price structure, more closely approximating cost differentials. This created certain advantages for those selling to the groups no longer receiving special treatment, as they were unwilling to follow the lead. The innovator was forced to return to the old type of structure.

These instances could be greatly multiplied by reference to the NRA codes, which exposed many situations where competition established the lowest form of business behavior as the norm, and correction was possible only by some form of industry action. And, in most instances, such co-operative action is likely to be in violation of the anti-trust laws.

Innovation on an Industry Basis

At present, the chief method for industry innovation, at least in the effort to change price structures or competitive procedures, is the consent decree technique. Since 1906, when this procedure was first used, about 150 such decrees have been written. A number of major revolutions in industry practices have thus been sanctified—for example, that in the motion picture industry, which went into effect only at the beginning of this month. The Federal Trade Commission Trade Practice Conferences represent another, though much more feeble, effort to help an industry to help itself.

The problem of the proper scope for industry inno-



ASSEMBLING WRIGHT CYCLONE MOTOR—PHOTO BY HOIT FROM CUSHING

"Instead of the unchanging status of the Middle Ages, when son was a copy of father in all details, our lifetimes have seen revolutionary innovations."

vation is still largely unsolved. In wide areas of modern business, competition appears at various odd points in a complicated product and distribution relationship, where terms and conditions of sale, customer classes, and the like, add innumerable complications to price structures, and where multi-product producers and the necessity of full lines at least blur, and probably make impossible, any clear cost-price relationship. The failure of the short-lived NRA to solve this problem satisfactorily neither disposes of the problem nor indicates that some other approach, through a properly established government agency, is impossible. Certainly it is not a matter which can be left to industry alone, for such power might easily be abused. And any agency which could work out these problems with industry would need to have profound knowledge and

a staff of undoubted impartiality and highest caliber.

An organization susceptible to such development is now being built in government and business. In the 1914-1920 period, a similar collaborative effort was made, but the organization was abandoned in 1920 as we sought "normalcy." In 1933, economic stress in peace-time saw the development of similar interrelated forms of business-government machinery. These forms are now undergoing extremely rapid growth as another period furnishes the stimulus. We must contemplate increasingly not only the problems of individual industry management but forms of intermingling such management with government. But it cannot be said that either business or government has successfully solved this problem of joint management, certainly an essential innovation yet to be made.

At one other point, the process of innovation is affected by the changing character of competition. In our present large-scale society, it is increasingly difficult for new enterprises to enter the field. One of the significant facts of the last decade, is the failure of any number of significant new enterprises to emerge, except in a few hitherto under-populated areas such as the airplane industry. The shift in the locus of scientific research from isolated workers to organized laboratories, the huge capital requirements for modern

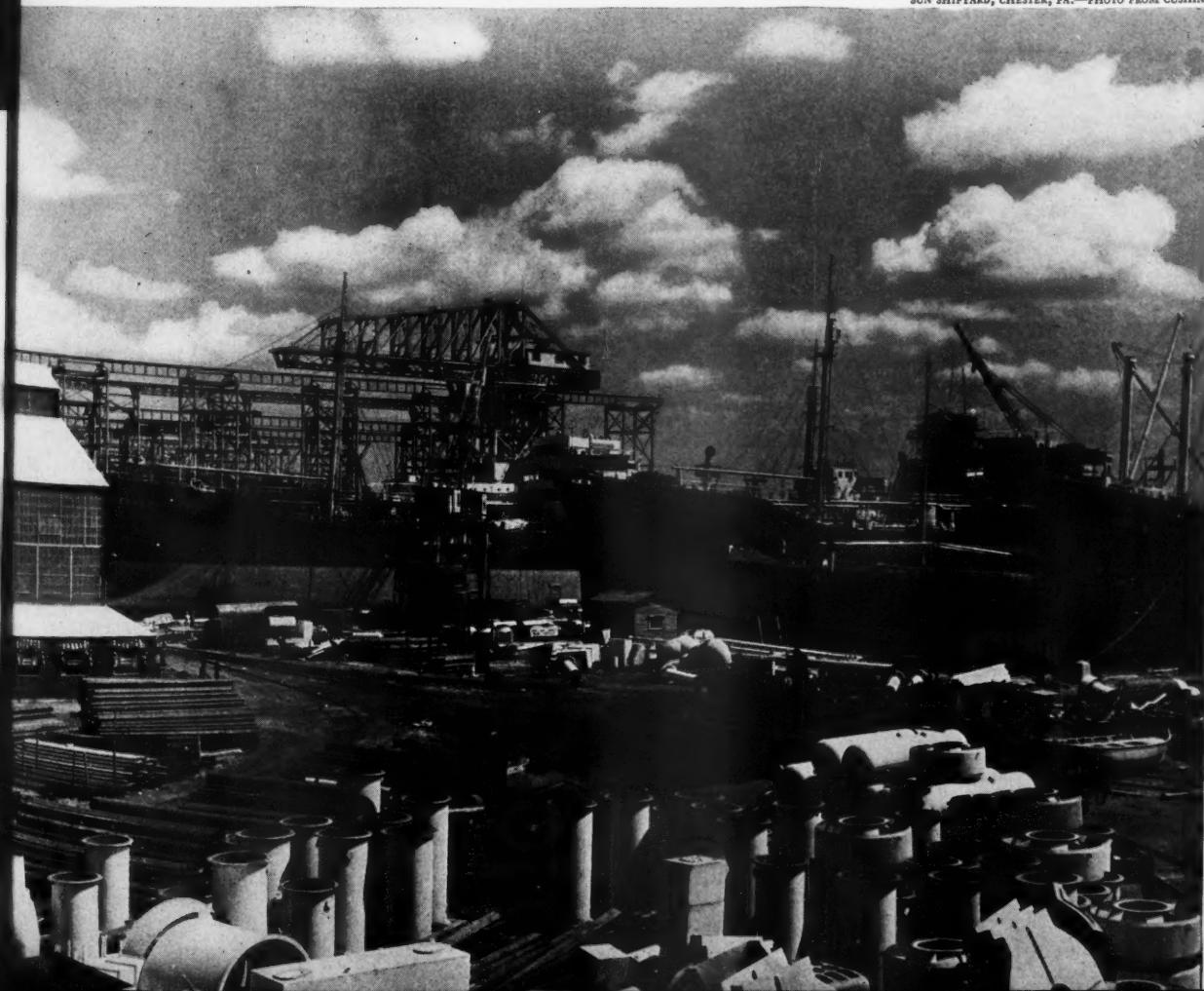
methods of manufacture, and the difficulties which a newcomer must face in capturing markets, all discourage the independent innovator.

Fortunately, the established enterprises have demonstrated a decided tendency to disregard their traditional fields. Giant enterprises are inevitably multi-product producers. A recent study of the 50 largest manufacturing enterprises, reported in TNEC Monograph 27, showed a range from 6 to 302 different products per company, using Census definitions for products. About one-half the enterprises had over 60 products. The Census definitions are quite broad in coverage, so the actual variety, product- and market-wise, is undoubtedly much greater.

It has become increasingly true that the giant enterprises are giants, not as the result of tremendous size in connection with some single product, but because they are the summation of activity in many different products. Out of 1,807 so-called Census products produced by the 47 largest companies, for only 18.1 per cent was one of the largest companies the largest producer. This diversification is not restricted to the manufacturing field. At the time that the reorganization proceedings commenced for the Associated Gas and Electric System, it was geographically diversified over 27 States and the Philippine Islands. While its

"That the next few years will be a period for the innovators, the progressive managements not bound by habit and inertia, but ready to adjust to new circumstances, should not be allowed to disguise the basic situation."

SUN SHIPYARD, CHESTER, PA.—PHOTO FROM CUSHING



properties were chiefly electricity and gas, there were substantial water, street railway and bus, and ice properties. It also included ferryboats, steam companies, an engineering firm, towing companies, hotels, quarries, forestry production of pulpwood, an insurance company, coal mining, real estate, and at least one herd of cows.

These illustrations are introduced to demonstrate that our present-day giant enterprises act as pools of technical skill, capital, and market contacts, by no means restricted to any particular field. One or more of these facilities is usually required for innovation today. Consider the synthetic textile field. About two years ago, three different enterprises announced new developments in this field. The Industrial Rayon Corporation, with a new continuous spinning process, announced a plant to cost \$11,000,000. DuPont's Nylon plant was to cost \$8,000,000. Celanese Corporation proposed to spend \$10,000,000 on a new plant to produce an entirely new synthetic yarn. None of them ever disclosed how many millions had been spent on experimental research to bring these developments to practical application.

Much of this product innovation is a direct result of research work on existing products, but many other reasons appear, chief of which are the utilization of plant or raw materials, and the desire to carry a full line. In many instances, only a giant enterprise would dare to invade territory already occupied. Thus Allis-Chalmers successfully invaded the field of International Harvester with a light combine, duPont disturbed the paint field with Duco, General Motors' interest in Diesel engines has led it into the locomotive field, and Chrysler is active in air-conditioning.

While it is true, that the services of these giant enterprises are essential to certain types of innovation, there are dangers in leaving the field entirely in their hands. With various products of theirs already strongly established, it is reasonable to expect that an innovation by the same enterprise would always be viewed with respect to its impact on existing production schedules, and the possible obsolescence of existing machinery and market channels. The tendency is, therefore, strongly in favor of products which will add rather than substitute. For some time, the developers of the micro-film process, have been trying to persuade publishers, particularly those of items such as the telephone book, and DUN & BRADSTREET Reference Book, to substitute films for the present large-scale volumes. After installing a small box-like apparatus in every home or office, the only cost of frequent substitution of up-to-date material would be the expense of maintaining a master list, photographing it and reducing it to micro-film whenever required. That such a revolution would

wipe out existing investments in printing plant, etc., is one of the major obstacles to this development.

It certainly is not desirable to check the large enterprises as contributors to product innovation. They should be encouraged in every possible way. But other things can be done to encourage the small-scale innovator. To the degree that the present dominance of large-scale enterprises in this area is the result of the size of their capital resources, the question is raised as to whether or not our present capital markets are properly organized to provide adequate assistance for the independent innovator be he inventor or manager. There are still ideas to be captured which do not require large laboratories and a staff of skilled technicians to uncover. Recent reforms in the patent system should also help to protect the "one-gallus inventor." This may even be a point where some form of subsidy, through tax relief or the like, might not be amiss. But the fact remains true, that product innovation today is chiefly in the hands of our great enterprises.

TENDENCIES HAMPERING INNOVATION

2. Vested Interests

IN ADDITION TO the changing character of competitions, there are other factors effecting the activity of business management as innovator, which need to be explored briefly. It has long been recognized that capital investment, particularly in some inflexible form such as a machine, is an obstacle to change. But now other vested interests are becoming increasingly important. The area of managers' freedom and power is steadily being narrowed. Various economic interests or groups in the social structure have been gaining increasing leverage, as ownership, once the dominant factor, has declined. Labor unions, business interests, particularly those engaged in distribution, and the government have all gained in their power. There is some sign even that consumers are stirring restlessly in their slumbers.

The increased strength of these groups has an initial effect of innovation, at least from the social point of view. Their original purpose is to accomplish change, usually in a direction not enthusiastically welcomed by business management. However, their strength and their presence reduces the flexibility for business management itself, and once established, they may easily turn into protective organizations, with little thought of further innovations.

Thus on the railroads, the labor unions have instituted rigid age and seniority rules, and have entered into personnel administration at many points. It has been said that their strength has been one of the factors making so difficult the achievement of the railroad

consolidation program now so long contemplated. Likewise, the increased importance of the distribution process has put much greater power in the hands of distributors, particularly those active on a large scale. That the mail-order houses, the chain stores, and the department stores have forced changes on independent retailers is well known. It should also be noted that

interest, and which probably most of them would have entered only if driven there by competitors. The government has interfered relatively little with those matters whereon business men exercise their real ingenuity—product development, process improvement, and marketing techniques.

As distinct from these commodity and service



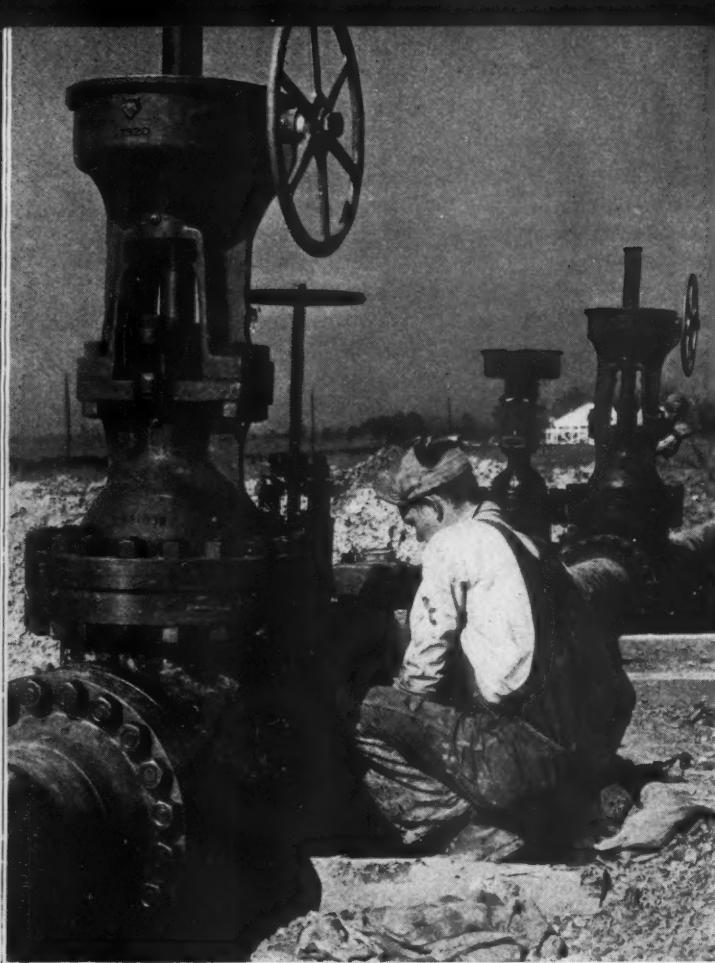
STEEL MILLS AT NIGHT, PITTSBURGH, PA.—PHOTO BY ALTWATER FROM CUSHING

their purchasing power often provides tremendous leverage on the manufacturer. However, from the point of view of our immediate problem, this is often merely a transfer of power from one business group to another, and may not have any net effect on the rate of innovation.

Of particular importance during the last decade, has been the reduction in the area of choice left to business men by the government. To be sure, to a large degree, the establishment of limits such as the wage and hour law, merely prevents their choosing to enter areas of action which are regarded as contrary to the public

matters, however, the government has recently taken vigorous steps in a newer type of innovation, which may be called social innovation. Changes in business behavior patterns and industry structures have been brought about by new legislation.

Thus, for example, it has recently made decided alterations in the financial aspects of business management. Over the last eighty years, it has regulated the banking system to an increasing degree, but its new activities are in the capital investment market. While its regulation has been directed primarily at protecting the investor through increased publicity and careful



VALVES ON PIPELINE—PHOTO BY MEISEL FROM MONKMEYER

supervision of market behavior, these same regulations may have a decided effect upon the flow of funds to business enterprises. To the extent that the great enterprises have sufficient capital, and can meet the demands for growth by reinvesting earnings, capital market regulation has little direct effect upon them. It is still vigorously debated territory as to the more general extent of the effect of the new regulation on investment and the availability of capital.

In certain other special industry cases, more drastic action has been taken. In the coal industry, for example, the price and marketing processes have come under control. And as for public utility holding companies, their future is in large measure in governmental hands. The Public Utility Holding Company Act of 1935 orders a revolution in that industry, the pattern to be established by the Securities and Exchange Commission in accordance with certain general criteria. Even after the pattern is established it can be accomplished for the most part through steps approved by that Commission. Since the Act was based on the proposition that utility holding companies with far-flung geographic and corporate tentacles were contrary to the public interest, their "death sentence" was re-

quired. It was obvious that such an innovation could hardly be accomplished satisfactorily by the business managements immediately involved.

It is hard to find an instance where any economic enterprise has ever broken up voluntarily into separate parts. Even the Civil War failed of this objective. Increase in size has needed little government encouragement (except with the railroads) but break-ups have usually required government action—see oil, tobacco, meat, powder, and now the public utility holding companies.

It is evident that the government has taken over considerable responsibility for change in our economic system, for making decisions which were heretofore left to individual business men. The list could be exceedingly long—from determining how many acres a farmer may plant, to extending electricity to rural areas; from a major social and economic experiment such as TVA to the determination of the character of labels on whiskey bottles. Since our concern in this paper is with business management's place as a source of innovation, it is merely necessary to note here that the government has become increasingly an innovator.

In fact, the most important changes in our economic system during the last decade have stemmed from government. Business management has been largely in the position of trying to determine the best ways of adjusting to these innovations. Perhaps it should also be added that the government is the greatest of all giant enterprises in this country, and its activities may be more subject in the long run to the same dangers of bureaucracy and to lack of innovation in administrative technique and irresponsibility as are our giant economic enterprises.

TENDENCIES HAMPERING INNOVATION

3. Organization Resistance

BOTH THE FACTORS which I have discussed up to this point are in a sense external to business management itself. But the very fact of giant enterprises is itself an important restricting force on innovation—a factor which may be called organizational resistance. In 1929, in connection with a study for the National Bureau of Economic Research, Inc., I gathered together scattered bits of evidence, much of it from as much as ten years before, showing that in terms of cost, giant enterprises were seldom as efficient as smaller enterprises.

This was reviewed by a committee of leading business men, who made the reply that operating a large enterprise did need special techniques, but that these were not developed until the late twenties. It is certainly true that about that time, a number of the larger enter-

prises did move in the direction of decentralizing responsibility to a considerable degree. But there are certain inflexibilities which are inherent in such giant undertakings, the inevitable consequences of size.

The inflexibility—or loss of imagination—in large enterprises arises basically from the fact that so many individuals must be involved, individuals most of whom are familiar with only some partial aspect of the whole. Not only can internal politics divert energy from more constructive ends, but the necessary subdivision of authority tends to obscure any individual accomplishment. Rules, or general statements of policy, are necessary with their inevitable tendency to restrict initiative. The internal delays of clearance versus confusion from short-cuts presents a difficult dilemma.

Impersonality creeps in as against close contact—decisions are made on the basis of memoranda—and the safest course is always to take the safest course. Inertia and habit are given support by the fact that most executives come up from within the company. I am not trying at this point to present an analysis so much as to indicate an atmosphere. Progressive managements have developed—and perhaps will develop more—techniques for overcoming these various con-

ditions, but the fact remains that they must be overcome.

Even beyond the organizational resistance inherent in large-scale enterprises, it is entirely possible that we may be in the midst of a change in the character of the individuals who constitute business management. It is quite impossible to make an analysis of the philosophy and attitude of the specific individuals who constitute business leadership today. However, it has long been recognized that a different type of leadership is required for pioneering and development work, than for the long-pull activity of maturity.

Thus, a different type of labor leader may be effective at the stage of organization than for later administration of an established union. In the automobile industry, most of the early pioneers gave way to other leaders once the industry came of age. The unusual number of changes in leadership within the utility industry recently is in large part a reflection of the changed character of the industry's problems. In recognition of the general rise of regulation, it is worthy of note that the legal profession is an increasing source for business executives. I suspect that innovators are more likely to appear at points and periods when new enterprises are developing, but that the succession (in an established enterprise) is more apt to go to the con-

"The tempo of the past was enough by itself to prevent the development of inflexibilities and to leave the non-progressive behind. Economic progress seemed to come automatically. Today, we must plan and work for it."



servator except when the enterprise is in such bad shape as to require a blood transfusion.

THIS LEADS US very naturally to our next and last problem—who determines business management, and therefore really establishes the basic policy which it shall express? To be sure, there are all sorts of limiting factors, but who ultimately determines the attitude of management? Who can apply pressure to management to demand that it be progressive?

One of the results of increased capital requirements and consequent wide stock distribution, has been the rising independence of business management. In the early days, management was identical with ownership. Today, management consists largely of professionals who have little stake invested in the enterprise. Of course, any generalization at this point is necessarily faulty because there is so much variety among the different cases.

While it is true that many of the large enterprises are controlled by a small group of dominant security holders, the cases of extreme close control like that of the enterprises associated with Ford and Hearst are rarities. Even the closely held cases may be somewhat misleading. A recent TNEC Monograph (29) disclosed that only one-half of the large stockholdings of individuals in giant corporations are in the direct form of outright ownership, the other half being represented by trust funds, estates, or family holding companies. The same study reports that officers and directors have relatively little financial stake. In many cases, public ownership of securities has emasculated ownership as a positive factor in business management.

Who Sets Business Policies?

But what of Boards of Directors? Here it is likewise difficult to make a generalization. In some cases, the majority of the Board is from the management, so that it is no check at all. And in most instances, its relation to the enterprise is rather desultory. Some Boards meet only every three months. But in any event, it is difficult to see how individuals from the outside can be competent to pass on many policy questions without devoting considerable time to the enterprise. The fee (\$20 to \$100 per meeting) often is fair evidence of the time given to the corporation's affairs. The Board of Directors is seldom the source of policy—though it more frequently ratifies the decisions of the executives.

At the one extreme, we may place the business management in an enterprise with stock widely sold and with a Board of Directors the majority of which constitute the same management. In such an instance, there is no pressure from anywhere to require the management to be progressive, or even to be responsible.

There is little to protect such a situation from the mismanagement of a Hopson or an Insull—or from stagnation.

After all, comfortably established, the practical course is to conserve one's own position. That managements, once established, tend to persist is well known. The cases in recent years where a management has been removed in a corporation with diversified holdings, a course which requires a battle for proxies, can be counted on one hand.

An interesting tabulation in TNEC Monograph 11, shows that, for 35 giant corporations, the executive head was 50.5 years of age on appointment and his present age is 60.7, so the average chief executive has held that office for over ten years. The industrial corporations were close to average, railroads above and utilities below. These chief executives had averaged 30 years' employment within the enterprise, only 20 per cent not having been promoted from within the company, and only 10 per cent considering the industrials alone. They appear at least to be conservators of their own positions.

Strangely enough, the other extreme appears when an enterprise gets into financial difficulties. In many cases the preferred stock achieves voting power or representation on the Board of Directors when its dividend has been sufficiently passed. And if the enterprise is unable to meet its debt obligations, then it is placed in the hands of a court for liquidation or reorganization. In reorganization, trustees are appointed (they are even bonded to insure their responsibility), committees of creditors are formed, and the management then proceeds under continual and close scrutiny of all concerned.

I can speak here from immediate personal experience as one of two co-trustees. We can take no step without an awareness of operating in a gold-fish bowl. The Securities and Exchange Commission is a party to the proceedings, and would be even though a public utility holding company were not involved. Most steps of importance, and some that are not, must receive formal court approval after a public hearing. For some of our actions it is required that all creditors and security holders (some 225,000 in number) be notified of the hearing where such approval will be sought.

In our particular case, no employee can be placed on the payroll of the Trustees without court approval. The creditors' committees and their counsel, devote a great deal of time and energy to watching and advising at every step. Compensation, for trustees as well as for committees, is awarded on the basis of accomplishment, after public hearing. Imagine such a procedure applied to the usual business enterprise, where the present management has a large part to say in defining

its own compensation and seldom if ever consults the stockholders on problems of policy.

Formal trusteeship, particularly under a judge who desires to review as extensively as possible, is thus a decided contrast from normal business procedure. It strikes me as rather paradoxical that the administration of an unsuccessful enterprise should be so surrounded with safeguards, when so few safeguards are applied to prevent its getting into trouble.

Toward More Responsibility

In several ways, more responsibility of management is being sought today. The Public Utility Holding Company Act provides perhaps the most drastic approach, assuming that smaller companies will be more responsible than their gigantic ancestor, because they will be more susceptible to local influence, both that of consumers and regulatory bodies. But within the giant enterprise itself, there are several new developments. In the first place, there has been a marked change in the reporting by companies of their activities to the public. It was not many years ago that even annual reports were kept secret by some of the larger companies. The responsibility of directors has been increased, particularly with reference to assertions made in connection with new financing. Likewise, a type of policing has developed in the form of stockholders' suits, ranging in subject matter from executive salaries to executive speculation. Such suits are of considerable importance today, particularly because they provide a fruitful field for legal racketeering.

In some few cases, there are appearing professional directors—individuals devoting their full time and energy to a few such responsibilities. The use of public directors is more widespread, and also has the possibility of some effectiveness. However, it is important to note that a minority may not be effective as a watchdog, unless it is given full access to information and more ways of expressing itself outside the directors' meeting-room. In the case of Associated Gas & Electric System, a suit was settled several years ago with the appointment of three disinterested Directors of the Board. They were largely ineffective because of the ease with which they were sabotaged on information by a non-cooperative management.

I know of no case where a stockholders' committee acts regularly as a watchdog on management, though such groups are sometimes formed for limited purposes. Perhaps this technique, so useful in reorganization, might hold a possibility for a going concern.

The problem raised by these observations is a very real one—already recognized by many individuals. The corporate form rests on an assumption of ultimate responsibility by the stock- (Continued on page 46)

NEW YORK CENTRAL R.R., NEAR COLD SPRINGS, N. Y.—PHOTO BY CUSHING



NEAR PORT JERVIS—PHOTOGRAPH FROM CHARLES PHILIP CO.

TO FIND THE COST OF SELLING

Analysis of Distribution Costs by Function

LEWIS E. ROSSITER

THE modern executive is well acquainted with the fact that the goods which his organization buys for resale, or manufactures for sale, cost money. And he knows the advantages of having available information concerning current, past, and future (in the form of estimates) costs—what they are for each product and for each unit of product, what they are composed of, and whether or not they are varying from what are considered normal costs of this type.

Such information aids management in controlling and planning operations with a view to assuring the business

of a good profit or to reducing losses.

However, the cost of obtaining, either by purchase or by manufacture, and of preparing goods for sale is not the only item of expense which enters into the determination of profits. From the gross profit realized by selling there must be deducted the selling and administrative expenses, herein known as distribution costs, before arriving at net profit.¹ And in not a few instances these items of selling and administrative expense will prove to be a major

factor in determining the profitability of a business.

This is especially true of businesses which buy goods to be resold in the original state or in slightly altered form, or of businesses in which the cost of manufacturing is comparatively low in relation to the product's sales value. Among such businesses are mail-order houses, in which the principal cost accounting problems are found in the distribution phase of their operations; wholesalers of chemicals for commercial use, much of whose wares often are bulk chemicals packaged for or by them or mixed and packaged by them; and soft drink manufacturers, whose prin-

¹ Most administrative expenses will be found to apply to the distribution function rather than that of production. Such manufacturing administration expenses as plant management and supervision, industrial engineering, etc., are applied to cost of goods made through an overhead distribution rate.



FULTON FISH MARKET—PHOTOGRAPH FROM CHARLES PHELPS CUSHING

cial items of cost apply to distribution rather than to production.

The greater the costs of marketing a product are in relation to total sales, the more important is the need for some procedure which will apply to the units of product their cost of distribution. In selecting this procedure it is well to take into consideration the various elements which make the distribution costs for particular units different from those for other units like in character.

Developing the Data

Aggregate distribution costs must be analyzed so that the management will be able to employ the data so developed in directing and preparing its distribution policies, just as manufacturing cost data aid in setting manufacturing policies. Today cost accountants are able to help the management by developing this marketing cost data.

Modern ideas of cost accounting for manufacturing have resolved themselves into a body of well-formulated and cohesive accounting theory. Pro-

cedures for developing from the total manufacturing cost the unit cost of producing each item, elaborate though they be, are workable, and the analyses so developed may themselves be readily incorporated on the books of account.

Analysis of manufacturing cost produces historical data which is of value in projecting operations by means of budgets. Comparison of actual performance with these projections, which are based on past performance and well-reasoned estimates of the effect which coming events will have on future operations, gives management a mechanism for controlling its operations. Variations from the

standards set by the budgets can be pointed out and can be investigated so that reasons for failure to perform as planned will be brought to light.

A similar body of theory, which deals with the application of recorded costs of distribution to the same units of product with which manufacturing costing deals, is being developed. And the same type of control devices which have been developed as manufacturing cost accounting procedures can be employed in distribution cost reports for use in directing and controlling distribution effort. However, the circumstances surrounding the distribution effort are not the same as those involved in manufacturing, and so the techniques of cost finding must be tempered to meet the different conditions.

Within reasonable limits of accuracy, the cost accountant can assign to each unit of product a manufacturing cost which reflects with fair accuracy (in terms of dollars) the labor, material, and indirectly related effort, materials, and expense (in the form of overhead

cost) which have entered into that unit's production.

The formula by which this is accomplished divides the total cost of manufacturing the item by the number produced and so arrives at the unit cost. Simple though it may seem, this formula is sound in practice if the total cost of manufacturing the item has been so aggregated that it includes all of the actual items of cost involved or a close approximation of them; cost accounting procedures today can do this.

However, distribution cost accounting cannot rely upon so simple a formula to arrive at the unit cost of distributing a product. The unit costs of distributing two units of product which are exactly alike in size, shape, color, and all other physical characteristics, and carry equal manufacturing costs will differ from each other with the territory in which the sale is made, the method of sale, the method of delivery, or even the characteristics of the customer to whom the products are sold. And because of these "external" factors, over which the distributor has little or no control, the system of costing distribution activities must differ from that used to cost manufacturing.

Type of Analyses

The most useful distribution cost analyses are those which show the different marketing costs which obtain because of the factors which affect distribution. Generally they will set forth the cost of distribution: 1. Within each territory; 2. For each product; 3. For each method of sale; and 4. For classes of customers or for individual customers.

The first three analyses are the most reasonably and accurately determined. There are a number of bases for allocating distribution costs to territories and products which will give good results. That is true, too, concerning allocation to methods of sale. But difficulty will be encountered in allocating the same costs to customers. More arbitrary bases must be employed, and this arbitrary disposition of the various items of ex-

pense results in poor reflection of the cost of distribution effort.

Analyses can be made within the original analyses. For instance, product distribution costs may be broken down by territories, territorial costs by customers, and so on. This involves constant re-allocation of the costs allocated in the primary analysis. And the further this re-allocation is carried, the less useful the results of the analyses tend to be.

It should be noted here that emphasis is placed not on the distribution cost per unit of product, but rather on the cost of obtaining sales. To that end the main effort is to accumulate the cost of distribution for each factor by which the cost tends to vary (customers, products, territories, methods of sale). The comparison of this cost with the gross profit derived from the particular factor produces the net profit from the factor, and this figure is the useful index of distribution activities.

Unit Functional Costs

Because the detailed analysis of distribution costs involves so much arbitrary apportionment, the use of unit functional costs is coming to the fore in distribution costing. The idea behind unit functional costs is to charge each distribution factor with the cost of the number of units of each distribution function required to serve it. Thus the distribution cost of the factor becomes truly proportionate to the amount of effort required to serve it.

The use of unit functional costs in distribution cost accounting parallels process cost accounting for production. A manufacturing process is really a function, and process cost accounting attempts to obtain the cost of each function.

By combining the unit costs of the functions needed to produce a particular unit of product, the cost of manufacturing that unit is found. In the same way, distribution cost accounting by unit functional costs combines the cost of the units of function necessary to distribute within a particular area,

to a particular customer or class of customers, to distribute a particular product, or to distribute by a particular method of sale. Thus we get the cost for the particular distribution factor involved.

If functional analysis is carried sufficiently far, it is possible to determine, for instance, the cost of selling Product X to John Smith, who lives in Territory Y, and who is sold by a travelling salesman from Branch Z. It is simply a case of measuring the unit functions and applying the unit costs to obtain the total cost. Unit function costs make possible greater accuracy in such a detailed analysis.

The proper functional analysis of distribution costs requires the careful application of the following steps:

1. Determine how the costs are to be accumulated; by territories, method of sale, products, customers, all four or any combination of the four.
2. Analyze all distribution costs by functions; collect separately the costs of the functions of marketing.
3. Determine the functional factors of variability, the units of activity with which the amounts of the several functions' costs vary.
4. Develop a unit cost for each of the functional factors of variability.
5. Determine the number of functional units required to serve the particular factor of distribution (territory, product, method of sale, or customer) to be costed.
6. Determine the cost of distribution for each factor by applying the information gained through the preceding steps.

These steps are the foundation of a proper distribution cost system based on unit functional costs. They will be discussed separately to point out some of the problems which tend to complicate their practical application.

Costs to Be Accumulated

As stated previously, distribution costs can be developed to show total cost of distribution by: 1. Customers; 2. Products; 3. Territories; and 4. Methods of Sale. Unit functional costs lend themselves readily to developing these costs of distribution.

Before a decision is reached as to how the costs are to be accumulated, the facts which analysis must reveal should be decided upon. Comparison of the profitability of the various distribution factors determines what products, customers, or territories are most profitable and should be pushed. It discloses what methods of sale and, if the analysis is carried far enough, what salesmen yield the best profit. Information developed through the analyses shows the way to profit and helps management to decide what to emphasize in its distribution campaigns.

Importance of Costs

In particular, recent legislation has given added importance to the determination of accurate customer costs. The Robinson-Patman Act and other laws designed to regulate fair competition make price discrimination between different buyers illegal for commodities of like grade and quantity, unless there are differences in cost of sale or delivery which result from different methods or quantities of sale as between various purchasers. To the extent that differences exist, price differentials are justified. Correct distribution costing which will bring out the differentials is invaluable so that sales policies may be developed which do not violate the law.

Distribution costs enter into the determination of pricing policies, not only because of legislation, but because common sense tells the seller to make sure that his prices are set to cover his costs. The information required to set the pricing policies should answer these questions:

1. How consistent is the policy followed in granting price differentials to large buyers?
2. What are the relative costs of serving large and small buyers? Which of the differences in costs result from differing quantities of sale or delivery?
3. What schedule of price differen-

tials will reflect the probable differences in distribution costs?

Then, we see, it is important to find the costs of serving different classes of customers, in order to determine what price concessions should be made. In the illustration of functional analysis it will be shown how the different distribution costs can be computed.

Correct customer costing is a difficult thing to accomplish because of the many arbitrary allocations involved. It is in unit functional analysis that the most accurate customer costing methods are found. But such items as advertising and fixed administrative expenses are still difficult to apply to customers. So there remain arbitrary allocations. However, an arbitrary basis can usually be found that will give a more accurate distribution cost than that disclosed by some other method. One common suggestion is to apportion arbitrary items on the basis of cost already apportioned by the functional method.

Analysis by functions is the most important step. The functional analysis must be made along sound lines to insure accurate results which will be a useful instrument of control. The direct expenses should be grouped by,

and charged directly to, functions. Indirect expenses should be distributed to the functions in accordance with the use made of the indirect facilities. All distribution costs should be charged to the functions, so that each function will show its true cost.

This principle implies that the chart of accounts must be organized along lines that parallel the distribution process. For every function of distribution of which the cost affects the total distribution cost there must be maintained an account in which are collected all of the expenses of that function, direct and indirect. Certain of the indirect costs, it is true, are difficult to apportion, but if functional analysis is sufficiently complete, their amount will be small.

Factors of Variability

If a complete and adequate functional analysis of distribution activities and their costs has been made, the factors with which the functional costs vary should suggest themselves. For instance, if all of the costs of the salesmen's calls are collected in one functional account, the individual call will suggest itself as the factor with which the total functional cost will vary.

For the function of routing orders, which probably would be largely mechanical in nature, the number of orders handled would be the factor of variability.

If the analysis does not reveal a factor of variability and it appears that there is really none, then some arbitrary basis of allocating the cost of the function must be hit upon.

For administration expense, it may be necessary arbitrarily to allocate to distribution factors. This may be done

on the basis of an estimate of the amount of time spent in administering each territory, product, or method of sale. For customer costing, this allocation would be more difficult. An administration cost per customer call might be the answer. The assumption then would be that administration time is spent on each customer in relation to the number of calls on him.

If an item of cost appears to have no relation to activity, it is best not to attempt to apply it in determining unit functional costs. It should be segregated from the true functional costs and accounted for in such a way that it may be controlled. In determining net profit, an unallocated item or the fair share of it which applies to the particular factor of distribution concerned must be taken into consideration.

If the distribution costs have been carefully collected by functions, if the analysis of functions has been complete, and if sound factors of variability have been developed, it is simple to determine the unit cost of each function. The total cost of each function divided by the total number of units of each function gives the unit costs.

If the analysis is a retrospective one, the number of functional units required to serve the distribution factor to be costed will probably be available. Then, the multiplication of the number of unit functions by the unit costs of the functions will give the cost of serving the particular factor.

If the analysis is a prospective one, to determine the probable cost of distribution to or by a particular factor, there are two ways of determining the number of units required. (1) Compile the number of units of distribution functions required on the basis of past experience with the same or similar factors of distribution. (2) Compile the number of factors required to serve the factor of distribution during a test period. On this basis, compute the number during the period to be costed.

The probable costs of distribution for a particular factor can be determined by multiplying the probable number of

LAKES TRANSPORT VESSEL—PHOTOGRAPH FROM CHARLES PHELPS CUSHING



functions required by the unit costs of those functions. A measurement of this cost of distribution against the probable gross profit will indicate the probable profitability of the factor of distribution.

Up to this point the unit cost of each distribution function has been developed and the number of units of each function required to serve each dis-

tribution factor has been compiled. Then the following formula will give the cost of one function required to serve the distribution factor.

$$\begin{aligned} & (\text{Number Units of Function}) \\ & \times (\text{Unit Cost of Function}) = \\ & \quad \text{Total Cost of Function.} \end{aligned}$$

This formula is repeated for each function required to serve the factor.

The costs are then totalled to obtain the total distribution cost.

This discussion of unit functional costs of distribution and their development has been based upon the assumption that the unit costs have been developed after the distribution operations have taken place. On the basis of these past costs, future estimates of operations costs can be made. And unit costs developed by analysis of past experience may be used to forecast operations by various distribution factors to decide which of such factors would be most profitable.

These forecasts of operations serve as standards to which it is desired that the actual future distribution costs will conform. If the costs are higher than the standards, investigation should be made to find out why.

Perhaps volume of distribution is lower than was expected and the fixed costs must be distributed over a lesser number of units of the product. Perhaps the situation is such that the prices of labor, supplies, or rent of everything that enters into the costs are higher than was expected. These and other similar reasons are revealed if the actual unit costs are compared with the standard unit costs.

Comparison of total costs tells little, for total cost may be more than standard because of a larger volume of distribution—possibly a desirable condition if the margin of profit desired is being maintained.

The procedure of establishing these standards requires the preparation by the executives in charge of sales of a budget of future distribution in terms of product.

The accounting department estimates for each function the total cost of carrying through that function of distribution at the level of operations set, together with the number of units of that function required to accomplish the sales mission. Then the estimated, or budgeted, unit functional costs can be computed easily. These become the standards for the budget period, and operations are compared with them.

I. FUNCTIONAL ANALYSIS OF DISTRIBUTION PROCESS—SALES BY SALES MEN—FUNCTIONAL FACTOR OF VARIABILITY

Function	Territory	Product	Customer
	Weight	Weight	Weight
Warehousing			
Selling			
Salaries	Calls		
Travelling	Miles	Calls	Calls
Variable Administration	Calls		
Advertising			
Direct Mail	Pieces	Pieces	Pieces
Publication	Circulation	Sales Value	Sales Value
Dealers' Helps	Pieces	Pieces	Pieces
Receive and Route Order	Orders	Order Lines	Orders
	Handled		Handled
Deliver	Weight	Weight	Weight
Bill	Lines Billed	Lines Billed	Lines Billed
Collect	Remittances	Lines Billed	Remittances
	Received		Received
Fixed Administration	Time Spent	Sales Value	Sales Value

II. FUNCTIONAL ANALYSIS OF DISTRIBUTION PROCESS—SALES AT WAREHOUSE—FUNCTIONAL FACTOR OF VARIABILITY

Function	Product	Customer
	Weight	Weight
Warehousing		
Advertising		
Direct Mail	Pieces	Pieces
Publication	Sales Value	Sales Value
Dealers' Helps	Pieces	Pieces
Take Order	Order Lines	Orders
Bill	Lines Billed	Lines Billed
Collect	Lines Billed	Remittances Received
Fixed Administration	Sales Value	Sales Value

III. BUDGET OF DISTRIBUTION EXPENSE FOR ONE MONTH

Function	Functional Factor of Variability	Expense	Units	Functional Unit Cost
Warehousing	Hundredweight	\$958.40	47,920	\$.02
Selling				
Salaries	Calls	2,125.00	1,700	.125
Travelling	Miles	21,050.00	21,000	.05
Variable Administration	Calls	425.00	1,700	.25
Advertising				
Direct Mail	Pieces	2,000.00	20,000	.10
Publication	Sales Value (Warehouse)	148.00		
	Circulation	430.00	14,000	.03
Dealers' Helps	Pieces	1,300.00	2,600	.50
Take Order	Orders	290.00	2,900	.10
Deliver	Orders	53.00	1,060	.05
Load	Hundredweight	1,356.00	33,900	.04
Bill	Hundredweight	140.20	14,020	.01
Collect	Lines Billed	178.50	5,950	.03
Fixed Administration	Remittances	100.40	2,510	.04
	Sales Value	1,424.50		
	Time Spent			
		\$11,969.00		

An Illustrative Problem

THE A-B PRODUCTS COMPANY manufacture two products, A and B, which are practically the same in bulk and weight. The products are sold to dealers, and all sales are carried on from the plant where the general offices are located. There are two territories, Territory 1 and Territory 2. Six salesmen operate in Territory 1 and four in Territory 2, all of them under the direction of the general sales manager.

In addition to selling through salesmen, the company sells to customers at its warehouse, without direct solicitation for these sales. The customer, if he purchases at the warehouse, must truck

his purchases away. If the sale is made through salesmen, delivery is made by the company.

Customers are classified as follows. The figures are pounds purchased.

Class	Order Volume	Average Order Warehouse	Order Salesmen
1	500-1,000	750	600
2	1,000-2,500	1,700	1,400
3	over 2,500	3,400	3,700

IV. BUDGET OF DISTRIBUTION EXPENSE FOR TERRITORY 1 FOR ONE MONTH

Function	Unit	Unit Cost	Units	Total
Warehousing	Cwt.	.02	20,400	\$408.00
Selling				
Salaries	Calls	1.25	1,000	1,250.00
Travelling	Miles	.05	12,000	600.00
Administration—				
Variable	Calls	.25	1,000	250.00
Advertising				
Direct Mail	Number Pieces	.10	10,000	1,000.00
Publication	Circulation	.03	8,000	240.00
Dealers' Helps	Helps	.50	1,400	700.00
Handle Order	Order	.10	1,700	170.00
Deliver	Cwt.	.04	20,400	816.00
Bill	Lines	.03	2,400	72.00
Collect	Remittances	.04	1,000	40.00
Fixed Administration	Time Spent	65% x \$1,000.00		650.00
				<u>\$6,196.00</u>

V. BUDGET OF DISTRIBUTION EXPENSE FOR TERRITORY 2 FOR ONE MONTH

Function	Unit	Unit Cost	Units	Total
Warehousing	Cwt.	.02	13,500	\$270.00
Selling				
Salaries	Calls	1.25	700	875.00
Travelling	Miles	.05	9,000	450.00
Administration—				
Variable	Calls	.05	700	175.00
Advertising				
Direct Mail	Number Pieces	.10	7,000	700.00
Publication	Circulation	.03	6,000	180.00
Dealers' Helps	Helps	.50	800	400.00
Handle Order	Order	.10	1,200	120.00
Deliver	Cwt.	.04	13,500	540.00
Bill	Lines	.03	1,900	57.00
Collect	Remittances	.04	800	32.00
Fixed Administration	Time Spent	35% x \$1,000.00		350.00
				<u>\$4,149.00</u>

VI. BUDGET OF DISTRIBUTION EXPENSE FOR SALES AT WAREHOUSE FOR ONE MONTH

Function	Unit	Unit Cost	Units	Total
Warehousing	Cwt.	.02	14,020	\$280.40
Advertising				
Direct Mail	Pieces	.10	3,000	300.00
Publication	Sales Value	29.2% x \$568.00		148.00
Dealers' Helps	Pieces	.50	400	200.00
Take Order	Orders	.05	1,060	53.00
Load	Cwt.	.01	14,020	140.20
Bill	Lines	.03	1,650	49.50
Collect	Remittances	.04	710	28.40
Fixed Administration	Sales Value	29.2% x \$1,424.50		424.50
				<u>\$1,624.00</u>

VII. BUDGET OF DISTRIBUTION EXPENSE FOR PRODUCT A IN TERRITORY 1 FOR ONE MONTH

Function	Unit	Unit Cost	Units	Total
Warehousing	Cwt.	.02	9,100	\$182.00
Selling				
Salaries				
Travelling				
Administration—				
Variable				
Advertising				
Direct Mail	Pieces	.10	3,600	360.00
Publication	Space	35% on A Total of \$240		84.00
Dealers' Helps	Pieces	.50	600	300.00
Handle Order	Lines	2,400	.071	1,080
Deliver	Cwt.	.04	9,100	364.00
Bill	Lines	.03	1,080	32.40
Collect	Lines Billed	.017	1,080	18.00
Fixed Administration	Sales Value	47.2% x \$650.00		306.80
				<u>\$2,563.70</u>

VIII. BUDGET OF DISTRIBUTION EXPENSES FOR PRODUCT B IN TERRITORY 2 FOR ONE MONTH

Function	Unit	Unit Cost	Units	Total
Warehousing	Cwt.	.02	11,300	\$226.00
Selling				
Salaries				
Travelling				
Administration—				
Variable				
Advertising				
Direct Mail	Pieces	.10	6,400	640.00
Publication	Space	65% x \$240.00		156.00
Dealers' Helps	Pieces	.50	800	400.00
Handle Order	Lines	.071	1,320	93.50
Deliver	Cwt.	.04	11,300	452.00
Bill	Lines	.03	1,320	39.60
Collect	Lines Billed	.017	1,320	22.00
Fixed Administration	Sales Value	52.8% x \$650.00		343.20
				<u>\$3,632.30</u>

In learning about distribution costs, the analyst thinks of each sales and distribution activity in terms of the best available units in which it can be measured. Thus the units for warehousing are hundredweights and those for salesmen's salaries are salesmen's calls. The costs of these units vary with different territories, products, and customers. From this beginning, there result totals that show which parts of the marketing effort are profitable and which need watching.

The company operates a unit functional cost system for distribution costing. The standards are based on budgeted operations for a year and are not changed during that year. Reports are to show how actual operations have compared with those budgeted for the month. Numerous analyses are made of various distribution factors to forecast operations, and comparisons are made of these forecasted or standard

operations with the actual operations.

The chart of accounts for distribution costs follows the functional lines of the distribution, distinction being made at the outset between the two methods of sale—sales by salesmen and warehouse sales. The cost of each function for each method of sale is recorded in its proper account in the section of the accounts devoted to the particular method of sale. The general outline

of the chart (or set) of accounts is shown under "Function" in tables I and II. To right of that column appear the various factors by which the cost of that function will vary. In a few instances "Sales Value" has been assigned to a function as such a factor. This is because no other factor could be found.

How the budgeted unit functional costs which are to be used as standards

IX. BUDGET OF DISTRIBUTION EXPENSE FOR CUSTOMER CLASS 1, SALES AT WAREHOUSE, FOR ONE MONTH

Function	Unit	Unit Cost	Units	Total
Warehousing	Cwt.	.02	3,600	\$72.00
Advertising				
Direct Mail	Pieces	.10	1,200	120.00
Publication	Sales Value	25% x \$148.00		37.00
Dealers' Helps	Pieces	.50	180	90.00
Take Order	Orders	.05	600	30.00
Load	Cwt.	.01	3,600	36.00
Bill	Lines	.03	1,000	30.00
Collect	Remittances	.04	450	18.00
Fixed Administration	Sales Value	25% x \$424.50		106.13
				\$539.13

X. BUDGET OF DISTRIBUTION EXPENSE FOR CUSTOMER CLASS 2, SALES AT WAREHOUSE, FOR ONE MONTH

Function	Unit	Unit Cost	Units	Total
Warehousing	Cwt.	.02	6,400	\$128.00
Advertising				
Direct Mail	Pieces	.10	1,000	100.00
Publication	Sales Value	45.5% x \$148.00		67.34
Dealers' Helps	Pieces	.50	130	65.00
Take Order	Orders	.05	360	18.00
Load	Cwt.	.01	6,400	64.00
Bill	Lines	.03	500	15.00
Collect	Remittances	.04	200	8.00
Fixed Administration	Sales Value	45.5% x \$424.50		193.15
				\$658.49

XI. BUDGET OF DISTRIBUTION EXPENSE FOR CUSTOMER CLASS 3, SALES AT WAREHOUSE, FOR ONE MONTH

Function	Unit	Unit Cost	Units	Total
Warehousing	Cwt.	.02	4,020	\$80.40
Advertising				
Direct Mail	Pieces	.10	800	80.00
Publication	Sales Value	29.5% x \$148.00		43.66
Dealers' Helps	Pieces	.50	90	45.00
Take Order	Orders	.05	100	5.00
Load	Cwt.	.01	4,020	40.20
Bill	Lines	.03	150	4.50
Collect	Remittances	.04	60	2.40
Fixed Administration	Sales Value	29.5% x \$424.50		125.22
				\$426.38

XII. ESTIMATED SALES FOR ONE MONTH

PRODUCT A	Hundred-weight	Cost per Cwt.	Total
Warehouse	6,020	\$2.00	\$12,040.00
Salesmen			
Territory 1	9,100	2.00	18,200.00
Territory 2	7,500	2.00	15,000.00
	22,620	\$2.00	\$45,240.00
PRODUCT B			
Warehouse	8,000	\$1.80	\$14,400.00
Salesmen			
Territory 1	11,300	1.80	20,340.00
Territory 2	6,000	1.80	10,800.00
	25,300	\$1.80	\$45,540.00
Total			\$90,780.00

XIII. ESTIMATED COST OF GOODS SOLD FOR ONE MONTH

PRODUCT A	Hundred-weight	Cost per Cwt.	Total
Warehouse	6,020	\$1.70	\$10,234.00
Salesmen			
Territory 1	9,100	1.70	15,470.00
Territory 2	7,500	1.70	12,750.00
	22,620	\$1.70	\$38,454.00
PRODUCT B			
Warehouse	8,000	\$1.50	\$12,000.00
Salesmen			
Territory 1	11,300	1.50	16,950.00
Territory 2	6,000	1.50	9,000.00
	25,300	\$1.50	\$37,950.00
Total			\$76,404.00

Customer classification, the type of selling agency, the product sold, and size of the sale are among the factors which bring changes in the expenses accompanying each of the several different units that are used to measure the costs of a company's sales and distribution activities.

for the coming period are developed is shown in table III. Total expense of the function is divided by the number of units of the function which will be required. Result—the functional unit cost against which will be measured the actual unit costs and which will be used to develop the budgeted distribution cost for each factor of distribution; territory, customer, or product.

The succeeding steps involve breaking this budget of distribution expense down into budgets for the different territories of sale and for the sales at the warehouse. This breakdown (tables IV, V, and VI) is accomplished by taking the number of units of a function which will be used in distributing to the territory or from the warehouse, applying the budgeted unit cost, and thus arriving at the portion of the total cost (from table IV) which will be absorbed by the territory or by warehouse sales.

The amounts to be expended to market the two products, A and B, in Territories 1 and 2 are determined in the same manner in which the total marketing costs for these territories were determined (tables VII and VIII).

Carrying on the analysis, we break down total warehousing expense by customer class, again by applying the standard unit costs to the numbers of units of functions (tables IX, X, and XI).

Profitability

In the foregoing description, we have followed the analyses of the total distribution costs by methods of sale, territories of sale, products sold, and customer classes. The allocations of cost have been made, so far as possible, by unit functional analysis of costs. Now there remains the measurement of the total costs so determined against the gross profits for the various factors involved, so that the profitability of the various distribution factors for the coming period may be estimated.

This involves setting up the estimated sales and costs of sales for the month, showing them by classes of

product and, within the classes, by methods of sale and by territories (tables XII and XIII).

Now, from the costs developed by our analyses and from the sales and cost of sales figures developed in tables XII and XIII, we can set up schedules showing relative profitability of the various factors of sale. This is done in three schedules.

The first schedule (table XIV) shows that salesmen's sales in all territories are being made at a small loss, while sales at the warehouse show a healthy

net profit. The second schedule (table XV) breaks down the loss in Territory 1 into a profit on Product A and a loss on Product B.

If we reduce the figures of the third schedule (table XVI) to a "per hundredweight" basis, we find a more useful index of profitability than that shown by the total figures. On that basis, we find:

Customer Class	Net Profit per Cwt.
1	\$.150
2	.197
3	.194

On the basis of these schedules, we

XIV. RELATIVE PROFITABILITY OF METHODS OF SALE AND TERRITORY

	Territory 1	Territory 2	Total
SALESMEN'S SALES			
Sales	\$38,540.00	\$25,800.00	\$64,340.00
Less Cost of Goods Sold	32,420.00	21,750.00	54,170.00
Gross Profit	\$6,120.00	\$4,050.00	\$10,170.00
Less Distribution Cost	6,196.00	4,149.00	10,345.00
Net Profit (or Loss)	(\$76.00)	(\$99.00)	(\$175.00)
WAREHOUSE SALES			
Sales			\$26,440.00
Less Cost of Goods Sold			22,234.00
Gross Profit			\$4,206.00
Less Distribution Cost			1,624.00
Net Profit			\$2,582.00
Total Net Profit			\$2,407.00

XV. RELATIVE PROFITABILITY OF PRODUCT SALES IN TERRITORY I

	Product A	Product B	Total
Sales			
Sales	\$18,200.00	\$20,340.00	\$38,540.00
Less Cost of Goods Sold	15,470.00	16,950.00	32,420.00
Gross Profit	\$2,730.00	\$3,390.00	\$6,120.00
Less Distribution Cost	2,563.70	3,632.30	6,196.00
Net Profit (or Loss)	\$166.30	(\$242.30)	(\$76.00)

XVI. RELATIVE PROFITABILITY OF SALES AT WAREHOUSE, BY CUSTOMER CLASSES

	Class 1	Class 2	Class 3	Total
Sales	\$6,800.00	\$12,120.00	\$7,520.00	\$26,440.00
Less Cost of Goods Sold	5,720.00	10,200.00	6,314.00	22,234.00
Gross Profit	\$1,080.00	\$1,920.00	\$1,206.00	\$4,206.00
Less Distribution Cost	539.13	658.49	426.38	1,624.00
Net Profit	\$540.87	\$1,261.51	\$779.62	\$2,582.00

XVII. MONTHLY REPORT OF COSTS OF DISTRIBUTION—TOTAL COSTS

Distribution Function	Functional Factor of Variability	Budgeted Expense (Standard)	Actual Expense	Net Variation Favorable or Unfavorable*
Warehousing Selling	Cwt.	\$958.40	\$880.20	78.20
Salaries	Calls	2,125.00	1,980.00	145.00
Travelling	Miles	1,050.00	1,045.50	4.50
Variable Administration	Miles	425.00	429.00	4.00*
Advertising				
Direct Mail	Pieces	2,000.00	1,710.00	290.00
Publication	Sales Value	148.00	155.00	7.00*
	Circulation	420.00	465.00	45.00*
Dealers' Helps	Pieces	1,300.00	1,296.00	4.00
Receive and Route Orders	Orders	290.00	309.75	19.75*
Take Orders	Orders	53.00	45.00	8.00
Deliver	Cwt.	1,356.00	1,372.00	16.00*
Load	Cwt.	140.20	160.60	20.40*
Bill	Lines Billed	178.50	174.00	4.50
Collect	Remittances	100.40	101.68	1.28*
Fixed Administration		1,124.50	1,400.00	24.50
Totals		\$11,969.00	\$11,523.73	445.27

* Denotes red figures (unfavorable).

XVIII. MONTHLY REPORT OF COSTS OF DISTRIBUTION—UNIT COSTS

Distribution Function	Functional Factor of Variability	Number of Units		Unit Cost	
		Standard	Actual	Standard	Actual
Warehousing Selling	Cwt.	47,920	48,900	.02	.018
Salaries	Calls	1,700	1,650	1.25	1.20
Travelling	Miles	21,000	20,500	.05	.051
Variable Administration	Calls	1,700	1,650	.25	.26
Advertising					
Direct Mail	Pieces	20,000	19,000	.10	.09
Publication	Circulation	14,000	15,000	.03	.031
Dealers' Helps	Pieces	2,600	2,700	.50	.48
Receive and Route Orders	Orders	2,900	2,950	.10	.105
Take Orders	Orders	1,060	1,000	.05	.045
Deliver	Cwt.	33,900	34,300	.04	.04
Load	Cwt.	14,020	14,600	.01	.011
Bill	Lines Billed	5,950	6,000	.03	.029
Collect	Remittances	2,510	2,480	.04	.041

find that discounts could be granted:

1. To those who buy at warehouse in preference to those who buy through salesmen; difference in cost is due to method of sale.

2. To customer classes 2 and 3 at warehouse; difference is due to difference in cost of handling orders.

However, in view of the narrow profit margin and the fact that sales through salesmen are made at a loss, it is probable that discounts would not be granted. Rather would the prices charged those who buy through salesmen be raised, unless the distribution costs of this method of sale could be reduced. If it is impossible to effect

either of these changes, operations must be carried out as indicated, the profit on warehouse sales absorbing the loss on salesmen's sales.

Monthly Reports

The final step in this analysis of the distribution costs of A-B Products Company is preparation of a report on the operations. It shows the budgeted expenses, the actual expenses, and whether the differences between actual and standard were favorable or unfavorable. In addition to total costs reported in this manner (table XVII), we find the actual unit costs developed and set against the standards in the

second half of the report (table XVIII).

One of the methods often suggested to allocate all distribution costs is on the basis of sales value or of the cost of sales. The idea is that distribution cost for any distribution factor always bears the same relation to the sales value produced by that factor or to the cost of goods sold to that factor that the total distribution cost bears to the total sales value or the total cost of goods sold. This basis is an illogical one, for it goes on the assumption that each unit sale involves exactly the same amount of distribution cost as does the next. This is clearly an erroneous assumption, for it ignores the differences in unit distribution costs which are bound to exist in such operations.

For instance, one customer may be farther distant than another, thus requiring more delivery effort for the same unit of product. One customer may be sold five units of product in one call, while another may be sold one unit in five calls. Therefore, it cannot be said that the cost of each unit sale is the same as the cost of the next one. Unit functional analysis, as outlined above, is the answer to the problem.

On the Sales Value Basis

Let us compare the results of our unit functional analysis of distribution costs for the A-B Products Company with an allocation of the same costs on the basis of sales value.

Comparison of methods of sale gives us these results:

	Territory 1	Territory 2	Warehouse	Total
Per Cent of Sales Value.....	46.0	24.8	29.2	100.0
Gross Profit....	\$6,120.00	\$4,040.00	\$4,206.00	\$14,376.00
Less Distribution Cost.....	5,505.74	2,968.32	3,494.94	11,969.00
Net Profit.....	\$ 614.26	\$1,081.68	\$ 711.06	\$ 2,407.00

We find that on this allocation basis Territory 1 and Territory 2 are producing profit, with Territory 2 more profitable than warehouse sales. But table XIV shows us that only warehouse sales produce profit, that Territory 1 and Territory 2 actually operate at losses, the loss in Territory 2 being the greater.

The Business Man's Diary

August - 1941						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

TAX anticipation notes placed on sale at Federal Reserve banks. . . .

1 OPM freezes domestic silk stocks for defense needs, halting all processing of raw silk. . . . Pig iron under full priority control. . . . Japan demands military bases in Thailand (Siam); economic powers.

GASOLINE curfew inaugurated on Eastern seaboard. . . . Ceiling prices set for raw silk and silk waste based on quotations prevailing on July 21. . . . Rayon yarn industry requested to set aside 10 per cent of output and of stocks for allocation to products formerly made of silk.

6 CEILING price of 12 cents a pound set for copper; no deliveries of the metal except upon specific directions of the Priorities Division.

TREASURY recommends broadening of income tax base by lowering exemptions from \$800 to \$750 for single persons and from \$2,000 to \$1,500 for married persons. . . . Hosiery mills asked to blend silk with 50 per cent of cotton or rayon.

10 IRON and steel under full priority control beginning September 1.

FEDERAL RESERVE BOARD empowered to regulate all forms of installment financing. . . . Eleven oil companies submit plan for a 1,820-mile pipe line, world's longest, to join Louisiana and New York. . . . Japanese Government assumes complete war-time control of Japanese business.

12 CEILING price of 3.50 cents per pound set for 96-degree raw sugar, bringing it down to mid-July level. . . . House votes 18-month extension of Army service by one-vote margin.

13 EIGHT-HOUR day provisions suspended for 100,000 workers employed directly by War Department on defense construction.

14 IN momentous meeting at sea, Roosevelt and Churchill define peace aims. Eight points include right of all peoples to have access on equal terms to raw materials and trade.

15 INSTALLMENT credit curbs proposed by FRB require 15 to 33½ per cent down payment on durable consumers' goods, balance within eighteen months. . . . OPACS directs oil companies immediately to cut by 10 per cent deliveries to service stations on Eastern seaboard.

16 PRICE ceiling on burlap ordered 20 per cent below spot quotations on market.

19 ARMY service to be limited to 14 to 18 months unless emergency arises.

21 PASSENGER car production through November scheduled by OPM-OPACS for 26.5 per cent cut below 1940. . . . Russia's great Dnieper Dam reported blown up in effort to check Nazi advance.

22 CREDIT restrictions effective September 1 cover 25 classes of consumers' durable goods, including furniture, stoves, sewing machines.

23 GOVERNMENT takes over Kearny, N. J., shipyard where three-week old strike has delayed construction of naval and merchant vessels. . . . Price ceiling fixed on rayon gray goods 10 per cent under mill level.

25 PRESIDENT vetoes bill which would have impounded Government stocks of wheat and cotton for duration of war. . . . British and Russian troops invade Iran (Persia).

26 INITIATING program for simplification of styles of goods, OPM requests bicycle manufacturers to reduce number of models, eliminate metal trim

27 SCHEDULE of "fair" retail gasoline prices in 40 cities issued by OPACS.

28 PRESIDENT reorganizes defense machinery. . . . New seven-man supply Priorities and Allocations Board headed by Vice-President Wallace is given full authority to fix priorities, allocate fuel, power, and materials. . . . Shah of Iran orders troops to cease firing.

31 DEFENSE expenditures for month reach new high record of \$1,172,000,000.



PRESIDENT AND PRIME MINISTER CONFER AT SEA ON WAR AIMS—HARRIS & EWIN



GASOLINE SHORTAGE IN EAST CURBS SALES FROM 7 P.M. TO 7 A.M.—INTERNATIONAL



STRIKE AT KEARNY SHIPYARD BEFORE FEDERAL INTERVENTION—INTERNATIONAL





PHOTOGRAPH FROM GRAMLICH

THE TREND OF BUSINESS

PRODUCTION . . . PRICES . . . TRADE . . . FINANCE

Seasonal factors considered, business activity in early September has failed to maintain the record pace of August. Supply shortages and the change-over to defense made it difficult for industry to add "normal" Fall gains to a level of operations already one-third above last year's. After August's spectacular rush, retail trade also lagged behind the seasonal rise. Forward buying of consumers diminished. The price uptrend continued without apparent loss of momentum.

AFTER the spectacular rise of recent months the business trend shows signs of flattening out temporarily. A not-unexpected let-down appeared in trade and production indexes for the first half of September. The exceptionally high rate of operations already prevailing, a growing shortage of materials, the increase of defense

needs at the expense of non-defense tended to prevent in some manufacturing lines the usual Fall upswing. Retailing was hard put to improve on August sales totals which included a record turnover in merchandise lines for which consumers anticipated short supplies, tighter credit regulations, tax or price increases.

Department Store Sales

Federal Reserve Board Adjusted Index

1923-1925 = 100

	1938	1939	1940	1941
January	90	88	92	101
February	88	88	90	103
March	86	88	89	107
April	83	88	89	104
May	80	87	89	101
June	82	86	91	101
July	83	87	92	101
August	83	88	98	103
September	85	90	97	103
October	86	92	94	103
November	88	93	100	101
December	88	95	101	103

An outstanding feature of development in August and early September was the accelerated transition to a defense economy. New priority regulations made compulsory the acceptance of all defense orders even if this would prevent or delay deliveries of non-defense goods. Full priorities became effective in the iron and steel industry. Of the twenty-nine price schedules promulgated by the Office of Price Administration up to mid-September, seventeen were issued after August 1. Installment credit curbs went into effect September 1. Defense expenditures reached a new record of \$1,172,000,000 in August, 10 per cent above the July total.

The stringency of supplies was felt more widely. While demand held at peak levels in most manufacturing lines, orders were increasingly limited by producers' inability to accept them. New bookings had declined in such industries as steel, paper, and textiles. Shortages of metals and of chemicals were especially troublesome and many non-defense industries were already curtailing production because of lack of materials.

While distributors' over-all inventories were heavy, wide gaps had ap-

Industrial Production

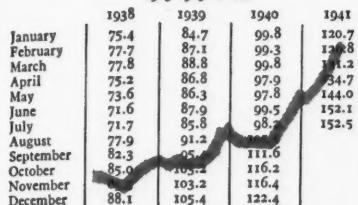
Federal Reserve Board Adjusted Index

1935-1939 = 100

	1938	1939	1940	1941
January	85	101	122	114
February	84	101	116	117
March	84	101	113	114
April	82	98	112	144
May	81	98	116	154
June	81	103	101	159
July	86	105	122	160
August	90	105	124	161
September	93	105	127	161
October	90	121	130	161
November	101	124	134	161
December	101	125	139	161

Factory Payrolls

U.S.B.L.S. Index
1923-1925 = 100



peared in some lines. Retail buyers returned to wholesale markets in September for their second trips of the season, reporting that scarce buying had left store stocks of some merchandise virtually depleted. Replacement of low-priced goods was especially difficult, as manufacturers used available materials in the production of better grades. Deliveries continued slow and buyers were making a habit of specifying second choice if orders could not be filled within a certain period. In some lines early deliveries were selling at premium prices.

Despite somewhat broader Government controls, the upward spiral of prices continued in both wholesale and retail markets. The all-commodity index of the BLS measured an additional 2 per cent rise in wholesale prices during August. Retail prices, according to the Fairchild index, were up 3 per cent for their sharpest advance since September 1933. Both of these indexes were at the highest levels since 1930.

Industrial activity: At 161 in August the FRB index of industrial production had increased 15 per cent since the beginning of the year. Following the most rapid advance on record, the upward trend of the index had levelled off to a one-point gain in July and August. Steadiness or a possible moderate drop from the peak level was indicated in early September as production schedules lagged behind the expected seasonal expansion.

Civilian industries were more and more distressed by their inability to secure raw materials. Makers of electrical equipment and radios reported

shortages of chrome, nickel, and copper, while private building activity was retarded by slow deliveries of metal supplies.

The Government showed little inclination to grant priority ratings for plant expansion to non-defense industries and civilian construction appears to have passed its peak.

Steel was placed under full priority control as shortages of this metal proved to be a principal bottleneck. Defense lines were absorbing about 75 per cent of steel output and civilian industries found it increasingly difficult to get supplies. Builders of railroad cars, unable to secure steel plates, were operating at only 28 per cent of capacity in early September.

The search for substitutes continued as manufacturers sought solutions for the supply problem. Transfers of private inventories on barter arrangements were also noted, first in the waste paper

Wholesale Commodity Prices

U.S.B.L.S. Index—1926 = 100

Week	May 1941	June 1941	July 1941	Aug. 1941
I	83.2	85.9	87.7	89.2
II	84.0	86.7	88.1	89.8
III	84.6	86.5	88.3	89.6
IV	85.0	87.7	88.8	90.0
V	85.2			90.6

industry and later among lamp manufacturers. Standardization plans became more prominent as producers of men's shirts, floor coverings, pencils, and Venetian blinds, among others, reduced their lines to basic items.

Consumer income: Income payments rose less sharply in July than in preceding months but total payments reached \$7,422,000,000, an increase of 20 per cent over 1940. Factory payrolls advanced fractionally from June to July, lifting the USBLS index to the highest point on record.

As the rate of gain in income fell off, living costs continued to advance more rapidly. In August the NICB index stood at 89.4 compared with 88.9 in July and 88.5 in June (1923 = 100).

At the August figure the index was 6 per cent above the pre-war level.

Consumer spending: The broadest gains of the year were recorded in August as retail trade failed to show usual seasonal declines. The FRB adjusted index of department store sales jumped from 115 in July to 135 in August. In general consumer spending ran about 35 per cent above 1940 levels (DUN'S REVIEW trade barometer). Although trade was maintained at high levels in early September preliminary reports indicated less than normal seasonal increases, narrowing year-to-year gains below 20 per cent.

Prices: Wholesale prices moved steadily upward in August and September. By the middle of the month the all-commodity index of the USBLS stood at 91.6, 18 per cent above last year's levels. Stock prices declined moderately during most of August, rallying slightly at the end of the month. In mid-September the Dow-Jones industrial average stood at 127.18, approximately 2 points below the July peak.

Banking and finance: Demand for business loans remained active. On September 10 Federal Reserve member banks held commercial, industrial, and agricultural loans totalling \$6,310,000,000, an increase of \$1,739,000,000 over last September. New corporate capital issues rose to a ten-year high of \$327,743,000 in August, due chiefly to a large utility issue. Effective November 1, member bank Federal Reserve requirements were increased by one-seventh to the statutory limit.

Industrial Stock Prices

Dow-Jones Index (Weekly Average)

Week	May 1941	June 1941	July 1941	Aug. 1941
I	115.91	117.71	119.5	120.90
II	116.69	121.01	127.40	127.73
III	116.51	122.79	127.70	125.56
IV	116.97	123.59	128.93	125.82
V	115.97			127.07

THE REGIONAL TRADE BAROMETERS

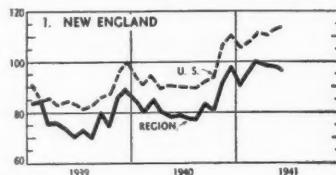
Trends in consumer purchasing in the 29 barometer regions are summarized on the opposite page. Charts on this page and pages 30, 32, and 33 compare the index for each region with the index for the United States since 1939. The accompanying paragraphs give more recent detail about regional trade conditions.

1. NEW ENGLAND

JUNE, 96.1 MAY, 98.6 JUNE 1940, 79.4
UNADJUSTED: JUNE, 101.2; MAY, 104.4

JULY—Percentage retail trade increases over previous July: Bangor 10, Portland-Boston-Worcester-Providence 20, New Bedford 15, Springfield-New Haven 25, Hartford 35. Wholesale trade increases: Boston 10, Portland-Springfield 15. Tobacco crop better than 1940. Production and payrolls well above last year, frequently up in month. Shoe, cotton industries increased activity, woolen slowed somewhat. Collections steady to better than 1940. AUGUST—Production and order backlogs at record for season. Many unused factories renovated for defense. Labor supply tight. Tourist traffic 20% above 1940; department store sales up 37%.

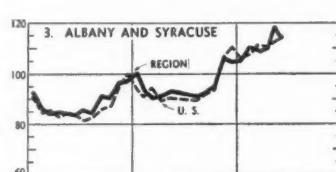
ADJUSTED FOR SEASONAL VARIATION: 1928-32=100



3. ALBANY AND SYRACUSE

JUNE, 113.8 MAY, 118.1 JUNE 1940, 92.9
UNADJUSTED: JUNE, 115.6; MAY, 121.5

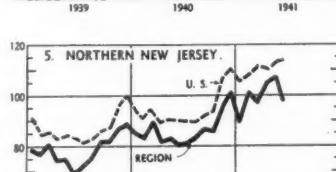
JULY—Percentage retail trade increases over previous July: Albany 35, Binghamton 25, Utica 20, Syracuse 21. Wholesale trade increases: Albany 25, Syracuse 17. Pasturage poor; drought hurt early crops but recent rains improved hay, late fruits, and grains. Production well above last year, up in month. Payrolls up 50 to 100% from 1940. Cheese and butter output 5% above last year. Collections better than 1940. AUGUST—Durable industries at or near capacity; output and orders increased; defense a stimulant. About 8,200 more workers needed in Albany area in last six months of year. Syracuse bank clearings up 7% from 1940, Binghamton off 5%.



5. NORTHERN NEW JERSEY

JUNE, 98.2 MAY, 107.2 JUNE 1940, 79.9
UNADJUSTED: JUNE, 105.1; MAY, 105.2

JULY—Newark retail trade 25% above last July, off 18% seasonally from June; wholesale trade up 11% from last July, off 8% from June. Payrolls and production above last year, steady in month. Building permit values in leading cities 27% below 1940. Industries allied with defense exceptionally active. Bank clearings up 22% from 1940 in Northern New Jersey, 16% in Newark alone. Collections better than 1940. AUGUST—About 20,000 workers on strike several weeks in shipyard and aircraft plant. Paterson silk industry adjusts to silk freezing order; most mills equipped for substitutes. Newark department store sales up 35 to 40% from 1940.

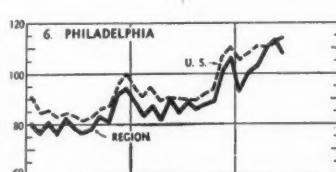


7. PITTSBURGH

JUNE, 110.4 MAY, 109.0 JUNE 1940, 90.7
UNADJUSTED: JUNE, 121.6; MAY, 118.2

JULY—Percentage retail trade increases over previous July: Erie 40, Pittsburgh 20, Youngstown 35, Huntington 17, Charleston 26. Wholesale trade increases: Erie 24, Pittsburgh 20, Charleston 22. Payrolls and production better than 1940.

(Continued directly opposite)



Indexes may be obtained in advance of their publication in DUN'S REVIEW by arrangement with the editor. Additional information about the barometers and about their especial usefulness in regional sales quota work, back figures and data on regional boundaries are available for users of the indexes.

2. NEW YORK CITY

JUNE, 86.3 MAY, 89.4 JUNE 1940, 73.7
UNADJUSTED: JUNE, 86.1; MAY, 92.4

JULY—Percentage retail trade increases over previous July: Bridgeport 40, New York City department store sales 22, hotel sales 0. Payrolls and production well above a year ago, increased in month. Payrolls up 49% from 1940 in New York City. Retail employment decline less than usual. Men's apparel, laundry, shoe, metal products, appliances, fur, handbag industries, shipyards expanded. Lamp manufacturers' sales 25 to 50% above 1940. Collections satisfactory. AUGUST—In last half 1941, 66,000 more workers estimated to be needed, with largest gains in metals and chemicals. Bank clearings up 24% from 1940; merchandise deliveries up 13%.

4. BUFFALO AND ROCHESTER

JUNE, 98.6 MAY, 101.4 JUNE 1940, 80.4
UNADJUSTED: JUNE, 99.5; MAY, 103.9

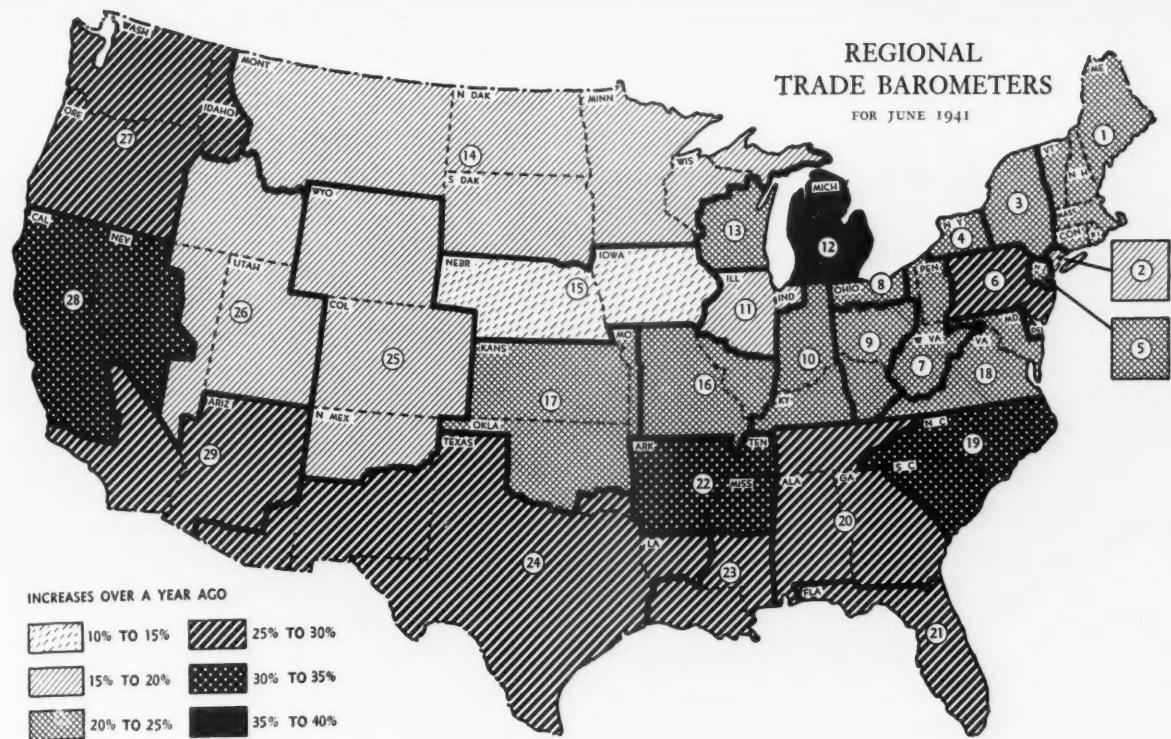
JULY—Percentage retail trade increases over previous July: Buffalo 28, Elmira 25, Rochester 15. Buffalo wholesale trade up 15%. Crops short due to dry weather; pasturage poor. Production sharply higher than last year, above last month. Payrolls up 40 to 60% over 1940. Dairy products output 5% ahead of last year. Buffalo employment best since 1920. Defense industries strong stimulant. Collections steady to better than 1940. AUGUST—Buffalo wholesale apparel market orders best in history. Department store sales up 35 to 70% in Buffalo, 30 to 50% in Rochester. Value of building permits double 1940 in Buffalo, up 29% in Rochester.

6. PHILADELPHIA

JUNE, 108.0 MAY, 113.3* JUNE 1940, 85.0
UNADJUSTED: JUNE, 115.6; MAY, 117.8

JULY—Percentage retail trade increases over previous July: Trenton 20, Allentown-Reading-Wilkes-Barre-Harrisburg 25, Philadelphia 23, Scranton 15, Wilmington 24. Philadelphia wholesale trade up 20%. Farm prices better than 1940. Production well above a year ago, generally up in month. Payrolls up 61% from 1940 in Allentown, 63% in Wilmington, 47% in Scranton. Durable industries at practical capacity. Hard coal output best for month since 1930. Collections steady to better than 1940. AUGUST—About 2,000 silk workers laid off in Wilkes-Barre. Garment manufacturers very active. Philadelphia retail trade 35% above 1940. *Revised.

frequently up in month. Steel mill and pig iron output at capacity. Soft coal industry booming; old mines being reopened. Electrical equipment and engineering firms have unprecedented backlog. Collections generally better than 1940. AUGUST—Large arsenal plant near Youngstown started production. Retail trade up 30% from 1940 in Erie, 23% in Pittsburgh. Record attendance at Pittsburgh wholesale mart.



TRADE GAINS NARROW AFTER AUGUST HIGH

The United States Trade Barometer (seasonally adjusted) rose to 120.5 in August from 112.4 in July. Barometer figures are compiled by Dr. L. D. H. Weld, Director of Research, McCann-Erickson, Inc.; trade information is reported by branch offices of DUN & BRADSTREET, INC.

THE excited and spectacular buying which characterized retail trade during August failed to carry over into September. Although responding to the seasonal pull, expansion in volume was smaller than usual as the Fall selling season gathered momentum and trade gains over last year narrowed sharply. By mid-September sales were estimated 10 to 20 per cent better than 1940, compared with a rise of 34 per cent in August.

Curbs on installment credit, considerable slackening in forward buying, as well as the unseasonably warm weather's effect on apparel sales were credited by merchants for the smaller gains in trade. Advance purchasing remained evident in beat-the-tax demand for furs, jewelry, toilet articles, and some home furnishings. Many stores continued to limit sales of hosiery and lingerie, and mail-order houses applied quotas to sheet and auto tire sales.

A whirlwind of advance buying, which culminated in

a sales rush approaching Christmas proportions during the final week of August, carried the U. S. Trade Barometer to 120.5 for the month, according to preliminary estimates. Dollar volume generally remained somewhat below 1929 peak levels, but in department stores and specialty shops handling such items as electrical appliances, turnover broke all records for the month. Purchasing was heavier than in July, when the U. S. Trade Barometer stood at 112.4, off 1 per cent from June; in that month volume had slackened somewhat more than seasonally from the unusually high June level, although remaining about one-fourth greater than in 1940.

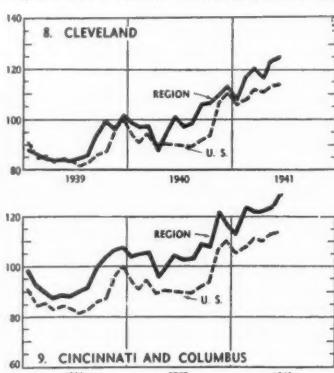
Rural areas reported exceptional sales gains over last year in July and August, reflecting the largest farm income in years and good crop prospects, as well as the stimulation from defense construction and Army camp trade in some sections. Industrial centers of the East North Central re-

8. CLEVELAND

JUNE, 125.6 MAY, 123.8 JUNE 1940, 101.0
UNADJUSTED: JUNE, 124.3; MAY, 123.8

JULY—Percentage retail trade increases over previous July: Cleveland 30, Akron 38, Canton 45, Toledo 27, Lima 15. Wholesale trade increases: Cleveland 28, Akron 12, Toledo 20. Corn, wheat, and oats yield well above average. Payrolls and production sharply higher than 1940. Rubber output curtailment started. Canton building permits in first seven months five times 1940 value. Collections generally better than 1940. AUGUST—Record Lake iron ore shipments. Steel rate near capacity. Some plants with non-defense orders laying off men due to metal shortages. Department store sales in Akron and Cleveland up 40 to 60% from 1940.

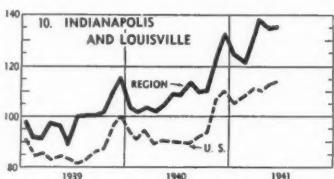
ADJUSTED FOR SEASONAL VARIATION: 1928-32=100



10. INDIANAPOLIS AND LOUISVILLE

JUNE, 135.8 MAY, 135.3 JUNE 1940, 109.4
UNADJUSTED: JUNE, 139.3; MAY, 143.0

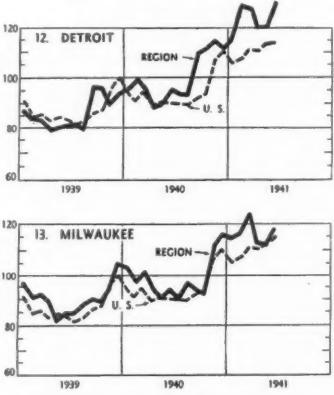
JULY—Percentage retail trade increases over previous July: Louisville 40, Evansville-Indianapolis 25, Terre Haute 7, Fort Wayne 35. Wholesale trade increases: Louisville 35, Indianapolis 30. Corn prospects much better than last year; some areas need rain. Tobacco output 6% below 1940. Indiana farm prices best since 1929. Payrolls and production well above a year ago. Whiskey, coal output well above last year, stone production 24% below. Collections vary. AUGUST—Manufacturing lines allied with defense very active, output increasing in Indianapolis. Louisville department store sales up about 50% from 1940, Indianapolis 35%.



12. DETROIT

JUNE, 130.2 MAY, 120.8 JUNE 1940, 95.8
UNADJUSTED: JUNE, 131.5; MAY, 130.5

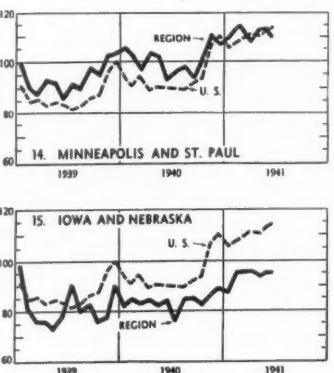
JULY—Percentage retail trade increases over previous July: Detroit 30, Grand Rapids 25, Saginaw 15. Wholesale trade increases: Detroit 10, Grand Rapids 20. Payrolls and production well ahead of 1940. Crop prospects favorable. Employment off slightly in month in metal, automobile lines, increased in aircraft building, tools. Auto output 15% below June, 92% above 1940. Furniture factory orders assure capacity operations for months. Collections better than 1940. AUGUST—Auto production at year's low as model year closes; output of passenger cars to be 26 1/2% below 1940 through November. Detroit retail and wholesale trade up 40% from 1940.



14. MINNEAPOLIS AND ST. PAUL

JUNE, 110.4 MAY, 113.8 JUNE 1940, 93.9
UNADJUSTED: JUNE, 118.6; MAY, 118.5

JULY—Percentage retail trade increases over previous July: Duluth 10, Minneapolis 3, St. Paul 10, La Crosse-Great Falls-Butte 15, Fargo 5, Sioux Falls-Billings 13. Wholesale trade increases: Duluth 15, Minneapolis 5, Great Falls 10. Hay and corn crops good; pasture fair to good. Grain yield above average. Payrolls and production above last year. Coal output steady, lead and zinc employment up 50% from 1940. Iron works, shipyards increasing payrolls. Collections steady to better than 1940. AUGUST—St. Paul retail trade 15 to 25% above 1940. Crop conditions spotty. Manufacturers' orders large, especially in machinery lines.



9. CINCINNATI AND COLUMBUS

JUNE, 127.0 MAY, 123.6 JUNE 1940, 104.6
UNADJUSTED: JUNE, 128.3; MAY, 123.3

JULY—Percentage retail trade increases over previous July: Cincinnati 29, Dayton 32, Columbus 30, Springfield 20, Zanesville 7. Wholesale trade increases: Cincinnati 10, Columbus 25. Farm prices about 20% above 1940. Wheat crop best in years; corn needs rain. Payrolls and production much better than last year, up in month in Cincinnati and Dayton. Many industries at practical capacity; order backlogs piling up. Collections generally better than 1940. AUGUST—Springfield needs 3,700 skilled workers, Lima 1,700 by October 1. Machine tool industry at capacity. Department store sales up 35 to 45% over 1940 in Cincinnati and Columbus.

11. CHICAGO

JUNE, 111.6 MAY, 111.7* JUNE 1940, 93.1
UNADJUSTED: JUNE, 115.8; MAY, 114.8*

JULY—Percentage retail trade increases over previous July: Chicago 18, Rockford 35, Peoria 20, South Bend 40, Springfield 5. Chicago wholesale trade up 17%. Farm prices best in years. Crop conditions good, rain needed in some areas. Payrolls and production well above a year ago, seasonal decline much less than usual. Output expanded in paper, leather, textile, transportation equipment, metal, and machinery plants. Collections steady to better than 1940. AUGUST—Chicago department store sales up 22% over 1940; Fall wholesale market sales up 40%. Peoria bank clearings up 23% from 1940, Rockford 38%, South Bend 35%.

*Revised.

13. MILWAUKEE

JUNE, 118.0 MAY, 112.2 JUNE 1940, 94.8
UNADJUSTED: JUNE, 120.6; MAY, 118.4

JULY—Percentage retail trade increases over previous July: Milwaukee 25, Madison 5, Green Bay 8. Milwaukee wholesale trade up 40%. Farm income 25% above 1940. Pasture condition poorer than last year due to dry weather. Milk output better than 1940. Corn and sugar beet outlook good. Payrolls and production substantially higher than last year, up in month in Milwaukee and Green Bay. Butter output 3% below last year, cheese production 9% higher. Collections generally better than 1940. AUGUST—Milwaukee department store sales up 33% from 1940. Large silk mill shut down at Kenosha. Heavy industries exceptionally active.

15. IOWA AND NEBRASKA

JUNE, 95.7 MAY, 95.3 JUNE 1940, 83.9
UNADJUSTED: JUNE, 94.6; MAY, 98.4

JULY—Percentage retail trade increases over previous July: Burlington 30, Cedar Rapids 13, Davenport-Des Moines-Sioux City-Omaha 15, Dubuque 18, Waterloo 19, Lincoln 9. Wholesale trade increases: Sioux City 9, Des Moines 10, Omaha 13. Corn prospects better than last year; rain needed. Farm income well above 1940 in Iowa, slightly lower in Nebraska, due to smaller Government payments. Payrolls and production above 1940. Collections steady to better than 1940. AUGUST—Small arms plant being built near Des Moines. Defense stimulating industries. Nebraska department store sales up 26% from 1940; Cedar Rapids bank clearings up 4%.

gion, Midwest, and South also turned in outstanding increases in trade, but in July some sections of the Pacific Coast reported smaller gains over 1940 than in recent months.

More detailed regional information now available for twenty-nine regions for June indicates that eleven regions located mainly in the South and on the Pacific Coast bettered the nation-wide increase of 24 per cent over 1940. Detroit again led all regions with a rise of 36 per cent. In only one region—Iowa and Nebraska—did trade increase less than 15 per cent over last year.

Buying reached record highs for the month in two additional regions—Cincinnati and Columbus, and San Francisco, areas benefiting substantially from defense work.

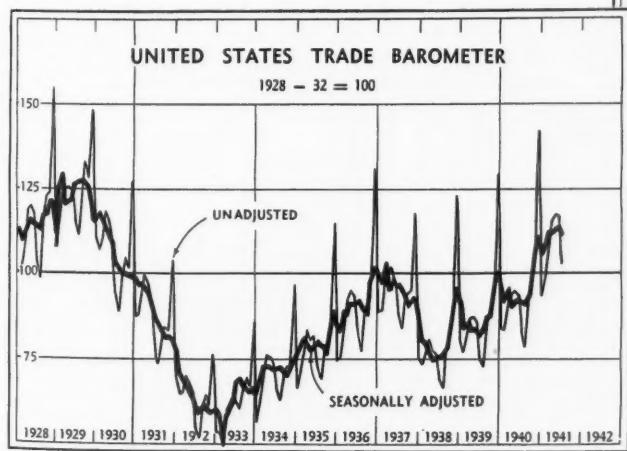
Bettering the usual trend from May to June, sales declined less than seasonally in eight regions and held steady or expanded in seven others, all located chiefly in the Midwest, South, or on the Pacific Coast. Largest decreases in buying from May were found in Northern New Jersey, Philadelphia, St. Louis, and Salt Lake City, regions in which trade recently had exceeded the seasonal trend.

(Charts and trade reports for each region begin on page 28)

THE MAP AND CHART compare the June, 1941, indexes with those for the same month a year ago. The column at the extreme right of the chart indicates the relative importance of the regions: the figures are percentages of national retail trade from the 1935 Census of Business.

THE INDEXES for the regions are charted, with U. S., from 1939, on pages 28, 30, 32, 33. They are composites based on bank debits (Federal Reserve Board), department store sales (Federal Reserve Board), new car registrations (R. L. Polk & Company), and life insurance sales (Life Insurance Sales Research Bureau). In regions 2, 3, 4, 5, and 14, wholesale sales (Department of Commerce), and in region 2, advertising lineage (*Editor and Publisher*), which made those indexes more accurate, are included. Each index is separately adjusted for seasonal variation and for the number of business days in each month. All are comparable. The average for the five years 1928-1932 equals 100. The preliminary figure for the United States is computed one month before regional figures are available.

THE PARAGRAPHS which are printed opposite the twenty-nine regional charts give figures and trade changes for the months of July and August based upon opinions and comments of business men in various lines of trade, gathered and weighed by the local DUN & BRADSTREET OFFICES.



REGIONAL TRADE BAROMETERS

Region	June 1941 Regional Index	June 1941 Compared with June 1940 (%)						Retail 1935 Sales %
		0	+10	+20	+30	+40	+50	
U. S.	114.0							+25.1 100.0
1. NEW ENGLAND	96.1							+21.0 7.8
2. NEW YORK CITY	86.3							+17.1 10.3
3. ALBANY AND SYRACUSE	113.8							+22.5 2.5
4. BUFFALO AND ROCHESTER	98.6							+22.6 1.9
5. NORTHERN NEW JERSEY	98.2							+22.9 2.9
6. PHILADELPHIA	108.0							+27.1 6.2
7. PITTSBURGH	110.4							+21.7 3.7
8. CLEVELAND	125.6							+24.4 2.9
9. CINCINNATI AND COLUMBUS	127.0							+21.4 3.1
10. INDIANAPOLIS AND LOUISVILLE	135.8							+24.1 2.6
11. CHICAGO	111.6							+19.9 6.4
12. DETROIT	130.2							+35.9 4.0
13. MILWAUKEE	118.0							+24.5 2.2
14. MINNEAPOLIS AND ST. PAUL	110.4							+17.6 4.5
15. IOWA AND NEBRASKA	95.7							+14.1 3.0
16. ST. LOUIS	112.6							+21.9 2.5
17. KANSAS CITY	112.3							+21.5 3.6
18. MARYLAND AND VIRGINIA	140.4							+24.5 3.8
19. NORTH AND SOUTH CAROLINA	155.1							+32.2 2.1
20. ATLANTA AND BIRMINGHAM	153.2							+26.4 3.5
21. FLORIDA	168.8							+26.8 1.3
22. MEMPHIS	133.0							+34.9 1.5
23. NEW ORLEANS	131.7							+25.2 1.0
24. TEXAS	141.8							+27.4 4.5
25. DENVER	118.8							+17.5 1.3
26. SALT LAKE CITY	114.7							+16.9 .8
27. PORTLAND AND SEATTLE	128.2							+29.6 2.7
28. SAN FRANCISCO	122.0							+30.3 3.4
29. LOS ANGELES	121.1							+27.2 3.9

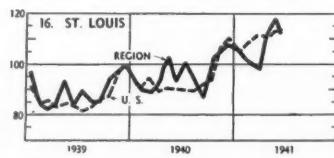
16. ST. LOUIS

JUNE, 112.6 MAY, 119.3 JUNE 1940, 92.4

UNADJUSTED: JUNE, 115.8; MAY, 124.8

JULY—Percentage retail trade increases over previous July: St. Louis 25, Springfield 40, Quincy 20. St. Louis wholesale trade up 40%. Wheat threshing completed; yield and output below 1940. Lack of rain seriously affecting crops. Payrolls and production better than last year, steady in month. Output markedly higher than 1940 in chemicals, machinery, aircraft, leather and shoes, building materials. Steel at capacity. Collections steady with 1940. AUGUST—Container, aircraft, and chemical plants employing 1,500 to be built in St. Louis. Record attendance at St. Louis wholesale market; department store sales up 32% from 1940.

ADJUSTED FOR SEASONAL VARIATION: 1928-32=100

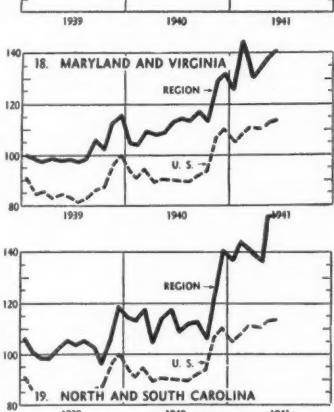


18. MARYLAND AND VIRGINIA

JUNE, 140.4 MAY, 139.0 JUNE 1940, 112.8

UNADJUSTED: JUNE, 140.8; MAY, 141.5

JULY—Percentage retail trade increases over previous July: Baltimore 23, Washington 30, Norfolk 45, Richmond 18, Lynchburg 15, Roanoke 18, Bristol 5. Wholesale trade increases: Baltimore 13, Norfolk 25, Richmond 20. Fruit prospects above last year, tobacco below. Maryland farm prices 28% above 1940. Payrolls and production well above last year; cotton mill activity up 84%. Employment increased in shipbuilding, aircraft, box, liquor industries. Collections steady to better than 1940. AUGUST—Steel and rayon mills at capacity. Baltimore department store sales about 40% above 1940; building permit value up 89%. Richmond bank clearings 28% above 1940.

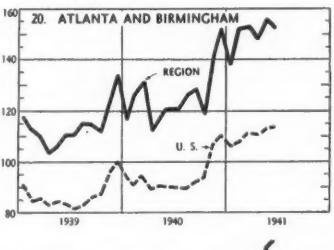


20. ATLANTA AND BIRMINGHAM

JUNE, 153.2 MAY, 156.4 JUNE 1940, 121.2

UNADJUSTED: JUNE, 144.3; MAY, 161.7

JULY—Percentage retail trade increases over previous July: Atlanta-Macon 30, Augusta-Nashville 25, Columbus 15, Savannah 50, Birmingham 20, Montgomery 22, Mobile 10, Chattanooga 20, Knoxville 21. Wholesale trade increases: Atlanta 20, Birmingham 15, Nashville 25. Peach prices weak, melons steady. Cotton crop favorable. Payrolls and production above a year ago; coal output up 19%. Cotton mill activity steady in month. Collections vary. AUGUST—Farm income stimulated by Government purchasing for Army camps. Atlanta department store sales 32% above 1940, Nashville 40%. Atlanta wholesale apparel market sales 35% above 1940.

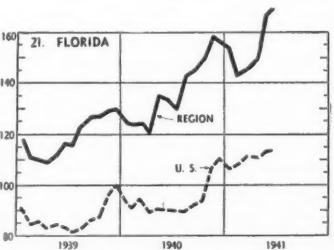


22. MEMPHIS

JUNE, 133.0 MAY, 131.8 JUNE 1940, 98.6

UNADJUSTED: JUNE, 120.2; MAY, 133.4

JULY—Percentage retail trade increases over previous July: Memphis 20, Fort Smith 26, Little Rock 30. Memphis wholesale trade up 10%. Arkansas vegetable crop short. Corn, cotton, and hay prospects good. Payrolls and production higher than last year, increased in month in Little Rock. Furniture and glass industries working at full capacity. Construction of new Army camp for 16,000 men favorable to Fort Smith business. Collections better than a year ago. AUGUST—Department store sales increased 44% over last year in Memphis, 54% in Little Rock. Crop conditions, despite insect damage, appear favorable. Feed crops abundant.



17. KANSAS CITY

JUNE, 112.3 MAY, 112.3 JUNE 1940, 92.4

UNADJUSTED: JUNE, 105.6; MAY, 110.8

JULY—Percentage retail trade increases over previous July: Kansas City-St. Joseph-Tulsa 20, Topeka 10, Wichita 37, Oklahoma City 10. Oklahoma City wholesale trade up 7%. Farm income increasing. Wheat crop large, corn good but needs rain. Payrolls and production generally better than 1940. Topeka meat packers active; railway shops on full time. Residential building expanding in Wichita; city population increased by 30,000 due to defense industries. Collections vary. AUGUST—Work starting on air depot in Oklahoma City which will employ 2,500 to 3,000. Flour milling 11% below 1940. Kansas City department store sales up 25% from 1940.

19. NORTH AND SOUTH CAROLINA

JUNE, 155.1 MAY, 155.4 JUNE 1940, 117.3

UNADJUSTED: JUNE, 143.5; MAY, 151.4

JULY—Percentage retail trade increases over previous July: Asheville 5, Winston-Salem 15, Charlotte-Wilmington 18, Raleigh 10, Charleston 35, Columbia-Greenville 25. Wholesale trade increases: Wilmington 20, Charleston 10, Winston-Salem 15. Tobacco, cotton yields below average. Payrolls and production well above last year, generally up in month. Charleston Navy Yard employing 13,000, working overtime. Cotton mill activity off 5% in month; 43% above 1940. Collections steady to better than 1940. AUGUST—Hosiery mills' work week curtailed. Furniture makers very active. Bank clearings up 48% in Charleston, 24% in Columbia.

21. FLORIDA

JUNE, 168.8 MAY, 166.2 JUNE 1940, 133.1

UNADJUSTED: JUNE, 139.4; MAY, 161.7

JULY—Percentage retail trade increases over previous July: Jacksonville 20, Miami 5, Tampa 30. Wholesale trade increases: Jacksonville 24, Tampa 35. Farm markets seasonally dull; citrus prices satisfactory, vegetable prices low. Employment up 18% from a year ago, payrolls up 24%, steady in month. Paper mills very active, demand steady. Jacksonville cigar industry at capacity. Sawmills have large order backlogs. Turpentine prices highest since 1934. Collections steady to better than 1940. AUGUST—Defense projects stimulating building in Miami. Bank clearings increased 35% over last year in Jacksonville, 37% in Tampa.

23. NEW ORLEANS

JUNE, 131.7 MAY, 129.9 JUNE 1940, 105.2

UNADJUSTED: JUNE, 123.9; MAY, 127.2

JULY—Percentage retail trade increases over previous July: New Orleans 10, Jackson 13. New Orleans wholesale trade up 19%. Outlook favorable for important crops such as cotton, sugar cane, corn, hay, vegetables, rice. Prices of farm and dairy products increasing. Payrolls and production better than last year, steady in month. Shipyard, cantonment, airfield construction exceedingly active. Lumber and textile industries operating at a high level. Collections steady with 1940. AUGUST—Bag loading plant costing \$15,000,000 to be built at Flora. Jackson bank clearings up 29% over 1940, New Orleans 44%, Meridian 30%, Hattiesburg 130%.

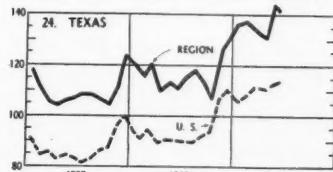
24. TEXAS

JUNE, 141.8 MAY, 144.2* JUNE 1940, 111.3
UNADJUSTED: JUNE, 134.7; MAY, 142.5*

JULY—Percentage retail trade increases over previous July: Dallas—Waco—Austin—Shreveport 20, Fort Worth 40, El Paso 50, Houston 6, Galveston 25, San Antonio 32. Wholesale trade increases: Dallas 10, Houston 5, San Antonio 46, Fort Worth 11, Shreveport 15. Excessive rains and boll weevil retarded cotton crop. Feed crop large. Production above last year; Beaumont payrolls up 71%, Dallas 41%, El Paso 36%, Fort Worth 26%, Waco 37%, Houston 26%. Collections steady to better than 1940. AUGUST—Houston wholesale market sales 50% above 1940; strike at large shipyard. Dallas bank clearings up 34% from 1940, Fort Worth 39%, Houston 32%.

*Revised.

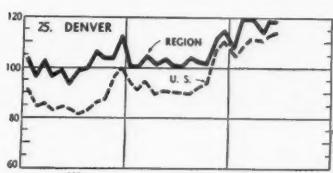
ADJUSTED FOR SEASONAL VARIATION: 1928-32=100



25. DENVER

JUNE, 118.8 MAY, 119.7 JUNE 1940, 101.1
UNADJUSTED: JUNE, 119.4; MAY, 118.4

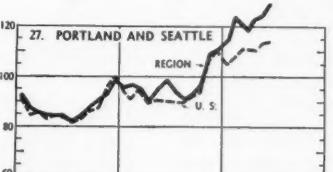
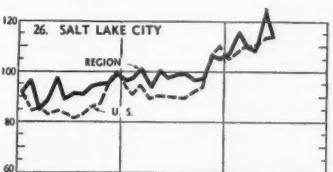
JULY—Percentage retail trade increases over previous July: Denver 15, Albuquerque 30. Denver wholesale trade up 10%. Condition of cattle and sheep best in years. Crop outlook favorable. Payrolls and production generally above a year ago, steady with 1940 in Albuquerque where a lumber mill shut down temporarily due to log shortage. Construction of \$30,000,000 arms plant three-fourths finished; production planned in September. Collections steady to better than 1940. AUGUST—Denver wholesale market sales best in history, apparel up 25 to 35% from 1940. Denver department store sales up 33% over last year. Steel mills at capacity.



26. SALT LAKE CITY

JUNE, 114.7 MAY, 123.7 JUNE 1940, 98.1
UNADJUSTED: JUNE, 113.4; MAY, 127.2

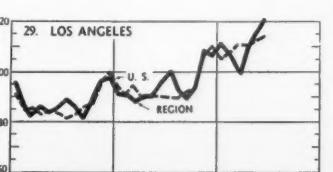
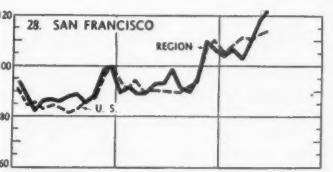
JULY—Salt Lake City retail trade 16% greater than a year ago. Wholesale trade up 21% from last July. Except for early fruits damaged by frost, all yield prospects increased; prices steady to higher. Production 25% better than 1940, up 10% over June. Construction materials, machinery, and mining equipment particularly active. Work started on small-arms plant costing \$30,000,000. Collections better than 1940. AUGUST—Payrolls and employment increasing, stimulated by Government expenditures. Magnesium plant costing \$63,000,000 to be built near Las Vegas. Salt Lake City bank clearings up 24% over 1940.



27. PORTLAND AND SEATTLE

JUNE, 128.2 MAY, 124.0 JUNE 1940, 98.9
UNADJUSTED: JUNE, 126.4; MAY, 126.4

JULY—Percentage retail trade increases over previous July: Seattle 30, Tacoma 43, Spokane 20, Portland 25. Wholesale trade increases: Seattle 30, Portland 25. Wheat harvest under way; crop biggest in years, prices good. Apple crop outlook even to below last year. Payrolls and production better than 1940, up in month in Seattle and Portland. Shipbuilding, aircraft, and housing continue to expand. Salmon canning seasonally active. Collections better than 1940. AUGUST—Seattle department store sales up 31% over 1940. Heavy equipment, lumber, paper, and pulp plants at capacity. Portland apparel wholesalers' orders best since 1929.



29. LOS ANGELES

JUNE, 121.1 MAY, 116.4 JUNE 1940, 95.2
UNADJUSTED: JUNE, 117.0; MAY, 116.3

JULY—Percentage retail trade increases over previous July: Los Angeles 20, San Diego 50, Phoenix 30. Los Angeles wholesale trade up 33%. Record orange sales for month, demand for lemons improved. Walnut crop outlook better than 1940. Arizona crops and livestock outlook good; wool shorn in 1941 slightly more than in 1940. Mines, aircraft, shipbuilding, and other defense lines expanded further. Collections better than 1940. AUGUST—Department store sales in Los Angeles area 10% above 1940. Motion picture activity at peak. Apparel manufacturers operating at high rate. Building very active on defense housing, bases, plant expansion.

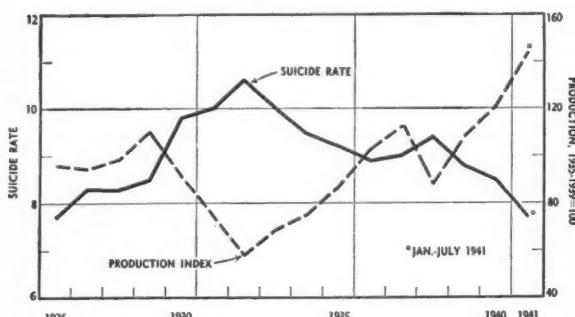
PHOTOGRAPH BY HOIT FROM CUSHING



THROUGH THE STATISTICIAN'S EYES

ODD AND INTERESTING ITEMS FROM THE MONTH'S RECORD

Business Up, Suicides Down



SUICIDE RATE AND INDUSTRIAL PRODUCTION—1926-1941—Metropolitan Life Insurance Company, Federal Reserve Board—Swinging with the business cycle, suicides touched a fifteen-year low as output hit new highs.

GOOD BUSINESS may mean slower business for morticians. The suicide urge, as well as sunspots, diamond bracelet sales, and the size of the pig crop, is linked to the business cycle. Pushed into the background when times are good, the desire to "end it all" reaches its peak at the low ebb of the business tide when depression aggravates financial difficulties.

At the bottom of the great depression in 1932 about eleven of every hundred thousand industrial policy holders of the Metropolitan Life Insurance Company committed suicide. The rate declined as business improved until the severe recession in 1937-1938 interrupted the trend. In 1941, however, suicides touched a fifteen-year low as industrial activity boomed to all-time highs.

As suicides men are much more successful than women although more women make the attempt, the Insurance Company points out. Feminine psychology apparently prefers gas or poison—least efficient method—while the masculine mind leans to shooting, drowning, jumping from high places, or hanging.

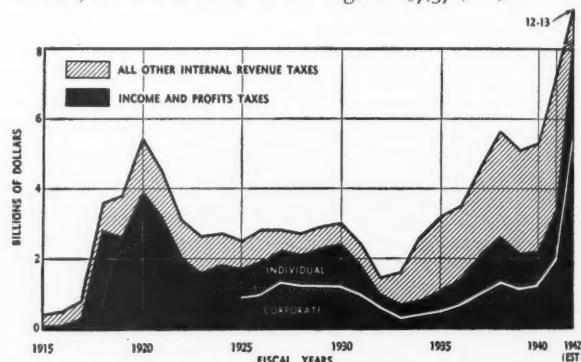
Record Tax Receipts

UNDER PRESSURE of huge defense expenditures in this second World War period the Government is again relying on income taxes to supply an increased and major share of its revenue. As in 1920 income and profits taxes, both corporate and individual, will account for nearly two-thirds of all tax payments, against 40 per cent in recent years according to Treasury estimates under the new law.

Receipts from all internal revenue taxes after a full year's operation under the 1941 law are estimated at 12 to 13 billion dollars. Over 8 billion dollars of the total will come from

income and profits taxes (corporate somewhat more than 5 billion, individual roughly 3 billion). Receipts will be far greater than in any previous year; total payments under the new law will run more than 50 per cent over 1941 payments, which were the highest in the history of the country. Income and excess profits tax payments alone will equal or surpass all internal revenue collections in the fiscal year 1941, the Treasury estimates.

Although total internal revenue in the fiscal year ended last June reached record levels, income and profits taxes at \$3,470,000,000 remained slightly under the 1920 World War peak of \$3,957,000,000. "Other" taxes such as excise levies on tobacco, liquor, automotive equipment, and Social Security taxes, which have steadily increased in the past decade, boosted revenue to the high of \$7,370,000,000.



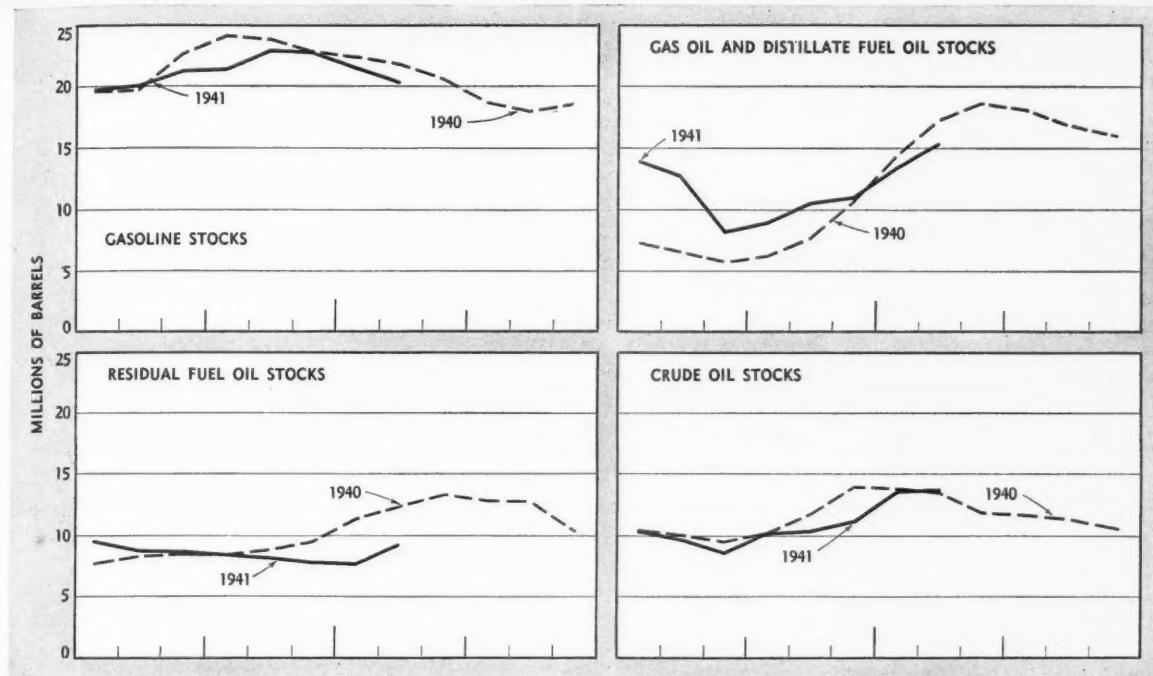
INTERNAL REVENUE RECEIPTS BY SOURCE OF FUNDS—1915-1942—U. S. Bureau of Internal Revenue—Income taxes under the 1941 law will supply nearly two-thirds of all revenue, as compared with 40 per cent in 1941. (Estimate for 1942 based on full year's operation under the new law).

East Coast Petroleum Supplies

THE HOTLY DEBATED question of Eastern Seaboard petroleum supplies seemed to many to have resolved itself by mid-September to a "shortage of surplus." With consumer demand forecast 10 per cent greater than 1940 for the final months of the year, stocks on hand of leading products were 10 per cent smaller by the end of August.

The Eastern supply situation shifted significantly following the initiation of the tanker transfers in May. Supplies of heavy residual oils needed for manufacturing, power plants, railroads, and naval vessels dropped drastically below last year after holding steadily higher in early months. By the end of August reserves were 34 per cent below 1940 in the East according to statistics of the American Petroleum Institute and U. S. Bureau of Mines.

After consistently large increases through May, which



reflected the greatly increased use of oil burners, home heating oil supplies (gas and distillate) dipped 12 per cent below last year. To support peak withdrawals during Summer months, gasoline reserves held closest to last year's level and were 7 per cent below 1940. Reversing the year's trend crude oil stocks, from which other products are made, gained slightly over a year ago.

In preparation for a probable record consumption during Fall and Winter, the situation in light and heavy oils improved somewhat by mid-September, although in gasoline the supply situation apparently tightened. Stocks of light and heavy fuel oils increased seasonally and bettered their standing in relation to last year: light oils narrowed the decrease below 1940 from 12 to 7 per cent, industrial oils

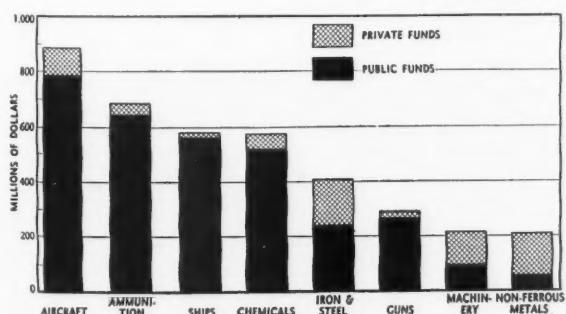
from 34 to 19 per cent. However, demand for industrial oils was said to be 18 per cent greater than last year in the face of curtailed supplies. Gasoline requirements continued to run 11 per cent larger than 1940, while stocks declined seasonally and also in relation to last year, registering a decrease of 11 per cent compared with 7 per cent in August.

The turn to railroad tankers and more economical use of transportation aided in building up stocks of oils. Further relief may be forthcoming within a few months when, it is said, 20 tankers will be released for other runs by completion of pipe lines now under construction.

Plant Construction for Defense

COMMITMENTS for industrial plant expansion through July 31 exceeded \$4,000,000,000, 78 per cent of which was financed by the Government. About two-thirds of the entire cost was concentrated in the aircraft, ammunition, shipbuilding, and chemical industries according to the Bureau of Research and Statistics of the Office of Production Management. Government participation predominated strongly in young industries and those devoted entirely to war demands. Established iron, steel, and machinery companies required less Federal aid.

More construction was allocated to Pennsylvania than to any other State—\$413,296,000. Ohio, New York, Michigan, Indiana, and Illinois ranked next, in order. Wyoming was the only State with no defense plant expansion.



COST OF INDUSTRIAL PLANT EXPANSION FOR DEFENSE—June 1940-July 1941
—Office of Production Management—Over three-fourths of all additional facilities are financed by the Government.

SIGNIFICANT BUSINESS INDICATORS

COMPILED BY THE STATISTICAL STAFF OF "DUN'S REVIEW"
More detailed figures appear in "DUN'S STATISTICAL REVIEW"

Building Permit Values—215 Cities

GEOGRAPHICAL DIVISIONS:	July 1941	July 1940	Per Cent Change	June 1941	Per Cent Change
New England	\$13,293,718	\$7,810,707	+ 70.2	\$8,568,628	+ 55.1
Middle Atlantic	31,698,114	22,047,269	+ 43.8	29,038,949	+ 9.2
South Atlantic	16,274,073	18,657,977	- 12.8	16,419,500	- 0.9
East Central	41,577,227	32,151,175	+ 29.3	32,195,752	+ 29.1
South Central	18,994,569	12,098,155	+ 57.0	13,549,857	+ 40.2
West Central	7,268,470	7,445,063	- 2.4	7,906,184	- 8.1
Mountain	2,534,878	2,860,525	- 11.4	3,503,843	- 27.7
Pacific	24,233,564	21,426,955	+ 13.1	24,636,373	+ 1.6
Total U. S.	\$155,874,613	\$124,497,826	+ 25.2	\$135,819,086	+ 14.8
New York City	\$17,710,390	\$12,555,186	+ 41.1	\$15,896,700	+ 11.4
Outside N. Y. C.	\$138,164,223	\$111,942,640	+ 23.4	\$119,922,386	+ 15.2

Bank Clearings—23 U. S. Cities

	(Millions of dollars)			Daily Average		
	1941	1940	1939	1941	1940	1939
January	26,155	24,140	23,383	1,005.9	928.5	935.3
February	22,687	20,641	19,885	1,031.2	897.4	903.8
March	27,609	23,681	25,192	1,061.9	910.8	933.0
April	27,105	23,587	21,931	1,042.5	907.2	879.2
May	27,602	24,361	22,374	1,061.6	936.9	860.5
June	28,094	21,838	23,212	1,123.7	873.5	892.8
July	28,483	22,939	21,576	1,095.5	882.3	863.1
August	21,046	22,782	—	779.5	843.8	—
September	21,083	24,015	—	878.5	960.6	—
October	25,289	22,469	—	972.7	898.8	—
November	25,224	22,807	—	1,096.7	991.6	—
December	27,862	26,827	—	1,114.5	1,073.1	—
Total	281,691	276,503	—	931.5	919.6	—

Bank Clearings for Individual Cities

	(Thousands of dollars)			
	July 1941	July 1940	Per Cent Change	June 1941
Boston	1,220,303	976,726	+ 24.9	1,195,461
Philadelphia	2,289,000	1,771,000	+ 29.2	2,163,000
Buffalo	204,356	157,581	+ 29.7	194,957
Pittsburgh	783,038	587,891	+ 33.2	782,665
Cleveland	685,915	487,116	+ 40.8	636,419
Cincinnati	355,323	274,261	+ 29.6	338,561
Baltimore	472,495	358,453	+ 31.8	500,562
Richmond	226,942	177,660	+ 27.7	217,50
Atlanta	358,600	269,600	+ 33.0	346,634
New Orleans	246,085	166,768	+ 47.6	215,997
Chicago	1,742,329	1,332,508	+ 30.8	1,719,657
Detroit	797,712	492,302	+ 62.0	765,435
St. Louis	529,532	403,096	+ 31.4	536,303
Louisville	228,802	154,791	+ 47.8	215,142
Minneapolis	408,584	309,034	+ 32.2	373,736
Kansas City	577,740	454,795	+ 27.0	497,821
Omaha	162,413	134,633	+ 20.6	154,626
Dallas	310,344	231,034	+ 34.3	288,747
Houston	276,015	204,114	+ 35.2	255,882
San Francisco	814,217	667,545	+ 22.0	771,674
Portland, Ore.	216,508	167,807	+ 29.0	204,775
Seattle	251,096	182,957	+ 37.2	235,194
Total 22 Cities	13,157,352	9,961,672	+ 32.1	12,610,749
New York	15,325,279	12,977,160	+ 18.1	15,482,889
Total 23 Cities	28,482,631	22,938,832	+ 24.2	28,093,638

Dun & Bradstreet Wholesale Food Price Index

The index represents the sum total of the wholesale price per pound of 31 commodities in general use.

1941	1940	1939
Sept. 23. \$3.33	Sept. 24. \$2.31	Sept. 26. \$2.46
Sept. 16. 3.33	Sept. 17. 2.31	Sept. 19. 2.46
Sept. 9. 3.34	Sept. 10. 2.31	Sept. 12. 2.45
Sept. 2. 3.28	Sept. 3. 2.32	Sept. 5. 2.32
Aug. 26. 3.26	Aug. 27. 2.29	Aug. 29. 2.16
Aug. 19. 3.21	Aug. 20. 2.23	Aug. 22. 2.14
Aug. 12. 3.21	Aug. 13. 2.24	Aug. 15. 2.13
Aug. 5. 3.19	Aug. 6. 2.23	Aug. 8. 2.15

HIGH Low

1941	Sept. 9	\$2.50 Jan. 7
1940. \$2.49 Dec. 10	1940. \$2.18 June 18	1940. \$2.13 Aug. 15
1939. \$2.46 Sept. 19	1939. \$2.13 Aug. 15	1939. \$2.13 Aug. 15

Dun & Bradstreet Daily Wholesale Price Index 30 Basic Commodities

(1930-1932 = 100)

Sept.	Aug.	July	June
1. * . . .	141.18	138.93	† . . .
2. 145.00	* . . .	138.90	135.12
3. 145.46	† . . .	138.91	135.21
4. 145.90	142.82	* . . .	135.35
5. 146.43	142.80	* . . .	134.96
6. * . . .	143.11	† . . .	135.97
7. † . . .	143.31	139.70	* . . .
8. 147.48	142.85	140.51	† . . .
9. 147.91	* . . .	140.37	137.09
10. 147.10	† . . .	140.06	137.13
11. 147.70	142.06	140.03	137.33
12. 147.60	141.36	* . . .	137.19
13. * . . .	142.04	† . . .	137.37
14. † . . .	141.85	140.23	* . . .
15. 147.11	141.85	140.23	† . . .
16. 146.59	* . . .	140.17	136.96
17. 146.79	† . . .	139.63	137.15
18. 146.73	141.99	139.78	137.54
19. 146.07	142.26	* . . .	137.84
20. * . . .	143.22	† . . .	138.19
21. * . . .	143.17	140.61	* . . .
22. 144.94	143.37	140.83	† . . .
23. 145.05	* . . .	140.80	139.63
24. * . . .	141.44	139.43	* . . .
25. * . . .	143.22	142.02	139.21
26. * . . .	143.96	* . . .	139.83
27. * . . .	144.54	† . . .	140.52
28. * . . .	144.74	142.00	* . . .
29. * . . .	144.62	141.65	† . . .
30. * . . .	141.14	138.71	* . . .
31. * . . .	140.74	—	—

† Sunday. * Markets closed.

HIGH Low

1941	Sept. 9	123.03 Feb. 17
1940. 124.84 Dec. 31	1940. 112.42 Aug. 19	1940. 101.40 July 24
1939. 124.19 Dec. 18	1939. 101.40 July 24	1939. 101.40 July 24

INDUSTRIAL AND COMMERCIAL FAILURES

NUMBER OF FAILURES	CURRENT LIABILITIES						TOTAL LIABILITIES						DUN'S INSOLVENCY INDEX †					
	Thousands of dollars			Thousands of dollars			Thousands of dollars			UNADJUSTED			ADJUSTED ‡					
	1941	1940	1939	1941	1940	1939	1941	1940	1939	1941	1940	1939	1941	1940	1939			
Jan.	1,124	1,237	1,567	11,888	15,279	20,790	12,535	15,805	24,860	62.2	67.1	86.0	51.8	54.6	69.9			
Feb.	1,129	1,042	1,202	13,483	13,472	13,582	14,323	13,600	13,589	71.3	66.7	78.0	62.0	58.0	67.8			
Mar.	1,211	1,197	1,322	13,444	11,681	19,002	14,754	12,130	19,315	62.5	62.6	72.6	61.3	61.4	71.9			
Apr.	1,149	1,291	1,331	13,827	16,247	18,579	15,068	17,114	21,837	61.5	70.1	73.1	58.6	67.4	71.0			
May	1,119	1,238	1,334	10,065	13,068	15,897	10,215	13,437	20,734	59.9	66.9	70.5	58.7	65.6	69.8			
June	970	1,114	1,119	9,449	13,734	12,581	10,183	25,101	12,737	53.9	62.5	66.5	55.0	64.4	69.3			
July	908	1,175	1,153	13,422	16,213	14,999	14,097	17,756	23,634	50.4	63.0	63.0	56.0	70.8	70.8			
Aug.	1,128	1,126	....	12,997	12,637	....	13,223	13,092	....	60.6	61.4	....	71.3	72.2	....		
Sept. ....	....	976	1,043	....	11,397	10,545	....	15,473	11,729	....	54.3	59.0	....	64.6	70.2
Oct. ....	....	1,111	1,234	....	12,715	17,464	....	14,236	18,119	....	61.7	67.0	....	67.1	72.8
Nov. ....	....	1,024	1,184	....	16,572	13,201	....	17,987	14,874	....	61.9	72.6	....	59.5	69.8
Dec. ....	....	1,086	1,153	....	13,309	13,243	....	14,980	14,934	....	58.0	65.0	....	57.4	64.3
Total	13,619	14,768	....	166,684	182,520	....	190,342	209,454	....	63.0	69.6	....	....	....	....

† Apparent annual failures per 10,000 enterprises. ‡ For seasonal variation.

ANALYZING *the RECORD of INDUSTRIAL and COMMERCIAL FAILURES*

JULY FAILURES SHOW USUAL SUMMER DIP

THE month-to-month decline in the number of business failures, which began in March, continued with total failures dropping to 908 in July from 970 in June. This 6 per cent decline followed a 13 per cent drop in June.

Liabilities turned upward, and rose from the unusually low June figure of \$9,449,000 to \$13,422,000. Both numbers and liabilities were under those of a year ago, numbers by 23 per cent and liabilities by 17 per cent.

The insolvency index, which measures the failure rate in that it relates the number of failures to the number of concerns in business, has dropped also month by month since early in the year. The July dip of 3.5 points, from 53.9 in June to 50.4, was appreciable, although it did not reach the proportions of the average July decline nor measure up to the June drop of 6 points.

The index when adjusted for seasonal variation reflected the shortage in

A BUSINESS FAILURE, as defined for this record, occurs when a commercial or industrial enterprise is involved in a court proceeding or a voluntary action which is likely to end in loss to creditors. Failures in this sense are but a small part of total discontinuances from business.

the July decline by rising 1 point, from 55.0 to 56.0. This rise in the adjusted index put the brakes on the practically unbroken downward trend of failures since February, although in May there was a slight hesitation.

In 1940 failures were unseasonably high in July and August, and the current 1 point rise of the adjusted index was in contrast with a 6.4 rise last July which carried the index to a level of 70.8.

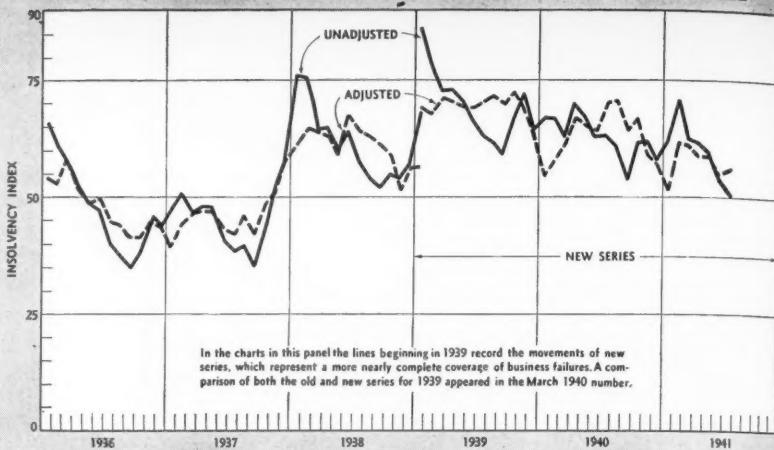
Manufacturing failures levelled off in July after moderate declines in May

and June. The number of failures was held up by increases in mining, food, and metal products, and by the lack of any change from June in several of the other lines. Only in textiles and apparel, lumber, chemicals, and stone, clay, and glass products was there an actual falling off in numbers.

Trade failures declined. In wholesale lines they took a nose dive to the lowest point reached in several years. They were off in all lines but dry goods, with the drop in foods, chemicals, and automotive products particularly noteworthy.

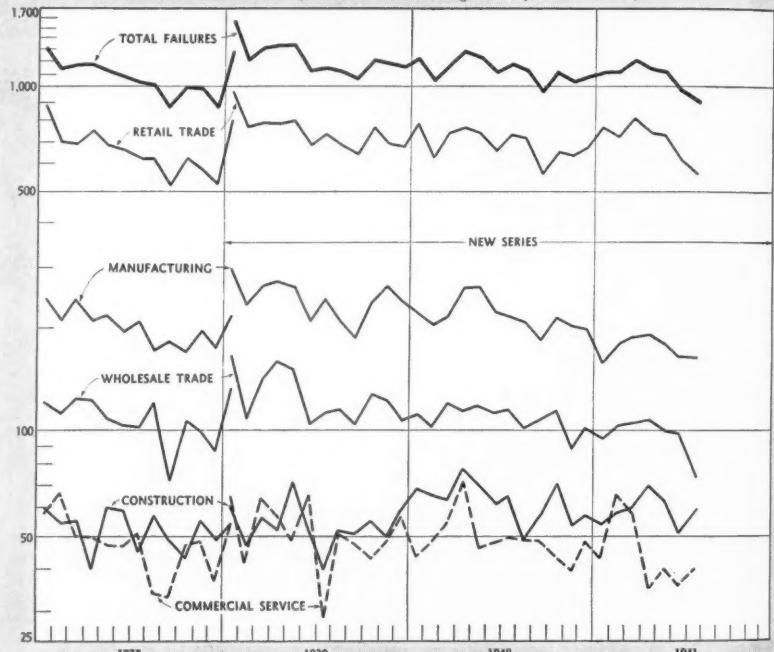
In retailing the decline was only in accord with seasonal expectations. Retail trends, however, were mixed. The expected seasonal drop occurred only in foods, hardware, and automotive products. Neither in general merchandise stores nor in apparel shops was there any decline. Among furniture stores and drug stores, failures increased

MONTHLY TREND OF THE INSOLVENCY INDEX



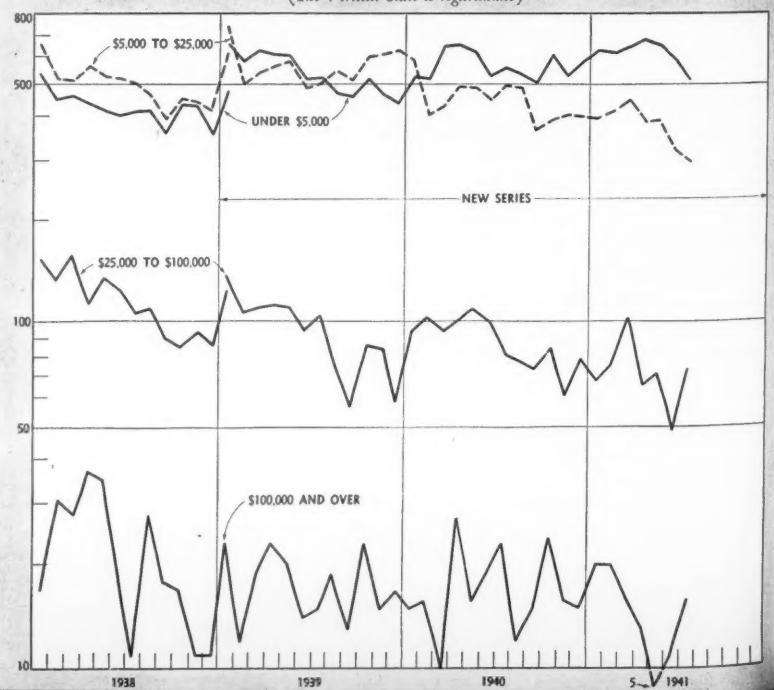
FAILURES BY INDUSTRIAL GROUPS

(The Vertical Scale is logarithmic)



FAILURES BY SIZE OF LIABILITIES

(The Vertical Scale is logarithmic)



somewhat, and Summer took its usual heavy toll in eating and drinking places.

Failures increased in both construction and commercial service.

Manufacturing failures as a whole were about 20 per cent under those of a year ago, with the drop principally in textile products and apparel, lumber, chemicals, iron and steel products, and machinery. The retail spread was 23 per cent, but this was caused not so much by a decrease at the present time as by an unusual rise a year ago. Retail failures for the last few months have been running from 3 to 9 per cent below those in the corresponding months of 1940.

INDUSTRY GROUP	July 1941	July 1940	Per Cent Change
Manufacturing	165	206	-20
Wholesale Trade	74	116	-36
Retail Trade	570	738	-23
Construction	59	65	-9
Commercial Service	40	50	-20
Total	908	1,175	-23

The July decline was confined entirely to the smaller failures, with the very small leading with a drop of 12 per cent. Very small failures were fewer in all the main industry groups except construction. The retail decline was confined to a drop in the very small failures.

In the second size group, those with debts between \$5,000 and \$25,000, the drop was 7 per cent. Failures in this group were down in manufacturing, wholesale trade, and construction, but numbered the same as in June in retail trade, and increased in commercial service.

The number of substantial failures with debts between \$25,000 and \$100,000 and of large failures with debts of \$100,000 or more increased in July. Increases in substantial failures in manufacturing, wholesaling, and construction raised the total from 49 in June to 75 in July. Large failures rose from 11 to 16, with one of them in the million dollar liability class. Among them were nine large manufacturing failures occurring in such industrial lines as sheet metal products, brick, elevators, and packers' products, and in consumer

lines such as furniture and rubber specialties. There were three large wholesalers and two large retailers out.

The failure rise a year ago was largely among concerns with debts between \$5,000 and \$25,000, so that the drop to present levels appears most pronounced in that size group.

SIZE GROUP LIABILITIES	July 1941	July 1940	Per Cent Change
Under \$5,000	519	568	- 9
\$5,000-\$25,000	298	500	- 40
\$25,000-\$100,000	75	82	- 9
\$100,000-\$1,000,000	15	23	- 36
\$1,000,000 and over.	1	2	- 36
Total	908	1,175	- 23

The geographical picture of July failures was very confused. States in the

same general area reported widely conflicting trends. For instance, Virginia showed a decrease from 14 in June to 4, and Georgia an increase from 5 to 17. Indiana failures were down from 14 to 5, and Wisconsin failures up from 19 to 34.

In the wider areas of the Federal Reserve Districts, failures were down normally in the St. Louis, Dallas, and San Francisco districts, and down more than normally for July in the Boston, New York, and Richmond districts. They were unchanged from June in the Atlanta, Chicago, and Minneapolis districts, and increased in Philadelphia, Cleveland, and Kansas City.

The Philadelphia district increase was the result of additional retail failures alone. The Cleveland increase was due to increases in all industry groups except retail, and the Kansas City increase to more manufacturing, wholesale, and retail failures, with no increases in the other two groups.

	Number			Liabilities		
	July 1941	June 1941	July 1940	July 1941	June 1941	July 1940
TOTAL UNITED STATES	908	970	1,175	13,422	9,449	16,213
MINING AND MANUFACTURING (total)	165	166	206	6,698	3,155	7,050
*Mining—Coal, Oil, Miscellaneous	9	4	7	429	157	2,250
Food and Kindred Products	36	25	30	731	451	619
Textile Mill Products and Apparel	34	48	56	562	1,030	1,484
Lumber and Lumber Products	18	22	29	597	201	348
Paper, Printing and Publishing	19	19	12	584	251	272
Chemicals and Allied Products	4	8	16	55	82	253
Leather and Leather Products	5	6	4	72	188	64
Stone, Clay, and Glass Products	1	4	2	272	16	156
Iron and Steel, and Products	6	5	14	126	88	254
Machinery	6	7	11	346	113	909
Transportation Equipment	2	3	4	36	328	58
Miscellaneous	25	15	21	2,888	250	383
WHOLESALE TRADE (total)	74	98	116	1,573	1,618	1,758
Food and Farm Products	24	35	35	569	491	669
Apparel	4	6	5	26	32	79
Dry Goods	3	..	6	86	..	61
Lumber, Building Materials, Hardware	6	8	16	220	528	439
Chemicals and Drugs	3	7	6	15	55	36
Motor Vehicles and Automotive Equip	3	9	3	22	65	29
Miscellaneous	31	33	45	635	447	445
RETAIL TRADE (total)	570	619	738	3,579	3,591	5,964
Food and Liquor	184	219	218	735	1,014	1,165
General Merchandise	29	28	54	147	159	729
Apparel and Accessories	77	78	123	432	368	921
Furniture, Home Furnishings	37	32	53	517	290	543
Lumber, Building Materials, Hardware	29	41	34	166	235	404
Automotive Group	36	57	57	201	384	360
Eating and Drinking Places	95	79	112	621	656	1,194
Drug Stores	40	35	51	257	233	423
Miscellaneous	43	50	36	503	252	225
CONSTRUCTION (total)	59	51	65	1,072	684	847
General Building Contractors	18	13	16	610	388	269
Building Sub-contractors	40	34	47	412	209	494
Other Contractors	1	4	2	50	87	84
COMMERCIAL SERVICE (total)	40	36	50	500	401	594
Passenger and Freight Trans.—Highway	9	5	16	120	81	157
Miscellaneous Public Services	1	1	1	59	5	5
Hotels	3	1	..	50	55	..
Cleaning, Dyeing, Repairing	5	6	13	31	78	191
Laundries	2	5	6	140	79	90
Undertakers	3	4	3	15	59	90
Other Personal Services	9	3	4	46	8	29
Business and Repair Services	8	11	7	39	36	32

* Subtract this item to obtain manufacturing total.

FEDERAL RESERVE DISTRICTS	Jan.-July		Per Cent Change
	1941	1940	
Atlanta	292	414	- 29
Chicago	953	1,174	- 29
Richmond	249	345	- 28
Minneapolis	107	132	- 19
Philadelphia	501	560	- 11
New York	2,799	3,053	- 8
Kansas City	305	316	- 4
Cleveland	415	432	- 4
St. Louis	245	242	+ 1
San Francisco	885	845	+ 5
Boston	663	610	+ 9
Dallas	196	171	+ 15
Total	7,610	8,294	- 8

Canadian Failures

Canadian failures were very low in the month of July. Only 58 were reported with liabilities of \$418,000, compared with 72 in June with liabilities of \$682,000. A year ago there were 99 failures with debts of \$860,000.

Nearly every Province reported fewer failures, and the decline was about evenly distributed between the large cities and the less urban sections. The decline was likewise well distributed throughout the five main industry groups. Compared with a year ago, manufacturing failures, down from 24 to 6, have shown more of a drop than have retail failures, down from 55 to 46.

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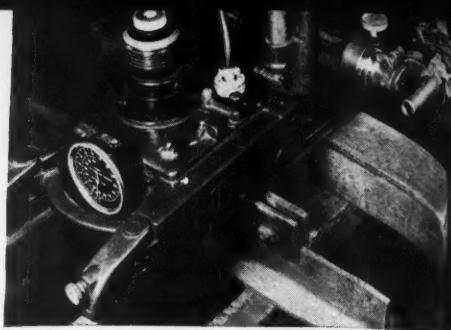
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HERE and THERE in BUSINESS

WHAT'S NEW AS OBSERVED BY THE AGENCY'S REPORTERS

Neoprene FR—Up to the present, synthetic rubbers have become hard and brittle when exposed to sub-zero temperatures. About the middle of this month, however, chemists of E. I. duPont de Nemours & Company, Inc., reported discovery of Neoprene Type FR, a synthetic rubber which is both oil-resistant and freeze-defying. Now in limited production, it will find use in airplanes which operate at very high altitudes and in machinery that runs when the weather's Arctic.

Your Deal—Bridge clubs find playing cards a continual replacement expense. One club reported that new decks cost \$25 a month. Because of this, several card manufacturers have achieved popularity with plastic playing cards, washable and durable. As a complement for these plastic decks, Cruver Manufacturing Company, Chicago, Ill., packages the cards in a rich, jade green plastic box.

Cruver says that the plastic cards don't stick together in hot weather; that after long use they don't split into layers at the corners; and that they don't burn. A cigarette will scorch a hole right through, but the smouldering edges char out. A Hollywood bridge club is said to have used two decks of plastic cards for 1,800 rubbers.

Incidentally, if one card in the deck is lost or damaged, Cruver has a 10-cent replacement service.

Ham Radio—To amateur radio operators in the continental United States went a public notice on July 22. Signed by the Federal Communications Commission, it announced that the Army Air Corps was going to borrow one of the hams' most popular transmission frequencies for duration of the national emergency.

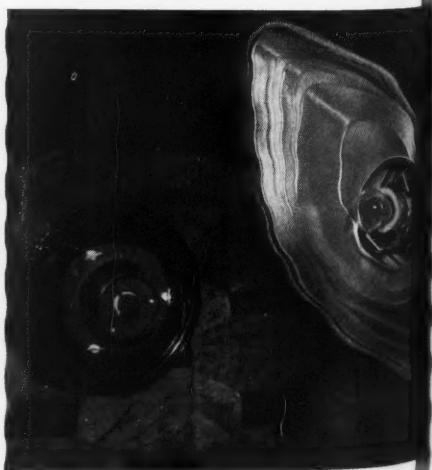
But for America's amateur radio sta-

tions the FCC cushioned its blows. Before issuing the notice it called in officers of their national association, The American Radio Relay League, Inc., to help work out the details. And with what the commercial networks might have envied as unusual meekness, FCC emphasized the temporary nature of its wave-length "borrowing." The Army, it said in effect, will sidle into the band, probably not occupying the full 3,650 to 3,950 kilocycles until about March 1942.

According to the editors of American Radio Relay League's magazine, *QST*, the Air Corps is going to use these frequencies for a new pilot training technique based on radio communication. An instructor supervising student pilots who have made their solo flights will direct several at once, radioing criticism, warnings, traffic orders, and emergency advice from his own plane or from the ground.

How many stations will have to shift

BLACKOUT LIGHTS—Shaped like an Admiral's hat using a 2½-watt Argon lamp, blackout luminaires General Electric Company's design give one candlepower. After eyes adjust to it, objects and persons are visible at 25 feet. The lighted area is invisible seven hundred feet off the ground. The lamp also causes fluorescent signs to glow. British blackout lights, smaller than GE's, lack a mirror-like reflector, and are round.



their frequency is a debated question. Approximately 70 different nets of the Army-Amateur Radio System in army, corps area, and State classifications have to be shifted; and about 56 American Radio Relay League traffic nets.

So at present a good number of the country's 60,000 licensed amateurs are about to rearrange their "rigs," while around their "shacks" (cellar, attic, garage, or bedroom) lie new parts and wiring diagrams which the OW (old woman, wife) doesn't touch on pain of instant electrocution.

Steam—Last Fall the Terminal Railroad Association, St. Louis, Mo., had to shut down its steam plant for twelve days while a large stack was relined. As at one or two of the army's training camps, the Association obtained temporary power from steam locomotives.

The Terminal engineers found that no one had checked the efficiency of locomotives used in this manner. Therefore, on this installation, they included test instruments—a water flow meter, steam flow meter, draft gages, temperature instruments, and orsats. According to measurements, the three locomotives gave an average overall efficiency of 74 per cent.

Eastern Fuel—On July 10 the first tank car delivery of crude oil in twenty years rumbled into the Standard Oil Company of New Jersey's refinery at Bayway, N. J. By the end of this year volume of tank car shipments of crude oil into Bayway may reach between 30 and 40 per cent of the refinery's capacity.

The first shipments of this crude oil originated in East Texas, came north through the Humble, Standard, Oklahoma, Ajax, Illinois, and Buckeye pipe line systems. At Lima, Ohio, the oil was loaded into 25 tank cars, for delivery in New Jersey 52 hours later.

Standard estimates that one tank car can make between three and four round trips a month, depending on the route. To supply Bayway with about 40 per cent of its daily needs, 1,300 tank cars will have to be assigned continuously to the service. Already the refinery has completed construction of facilities to unload a possible 200 tank cars daily.

Other steps being taken by Standard

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is essential to efficiency and high-speed production. A steadily increasing flow of orders and re-orders for Buell Dust Collectors for the reclamation of valuable dusts and the reduction of dust-caused losses in efficiency indicates the high regard in which engineers hold the van Tongeren System, offered only in Buell equipment.

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Well, here it is another weekend and I'm not a General yet. But give me time.

Matter of fact, I have too much time on my hands—on evenings and weekends.

The nearest village is 5 miles away. All you find there is a general store, a garage and a canning factory—nowhere to go for any good clean fun, unless you drop in at a smoke-filled juke joint on the way.

Well, Mom, there's a big favor you can do me. The U. S. O. is trying to raise \$10,765,000 to run clubs for us, outside of camp. Places with lounge rooms, dance floors, games, writing rooms. Places you can get a bite to eat without paying a king's ransom.

I know you don't have an idle million lying around, but if you could get the family interested and some of the neighbors, and if that happened all over the country, the U. S. O. could raise \$10,765,000 overnight.

I'd appreciate it a lot, Mom, and so would every other mother's son in the U. S. Army and Navy.

Love,
Bill

They're doing their bit for you. Will you do your bit for them? Send your contribution to your local U. S. O. Committee or to U. S. O. National Headquarters, Empire State Building, New York, N. Y.

These organizations have joined forces to form the U.S.O.: the Y.M.C.A., National Catholic Community Service, Salvation Army, Y.W.C.A., Jewish Welfare Board, National Travelers Aid Association.

OPEN YOUR HEART
OPEN YOUR PURSE
GIVE TO THE
U S O

[42]

to build up stocks for the East Coast include a shift from fuel oil to coal for some units of the Bayway refinery. This, says the company's magazine, *The Lamp*, saves 1,000,000 barrels a year, the equivalent of twelve trips by an average size tanker from the Gulf.

Standard is having thirteen tankers built and seven barges for river traffic. Each barge will hold 8,100 barrels of oil.

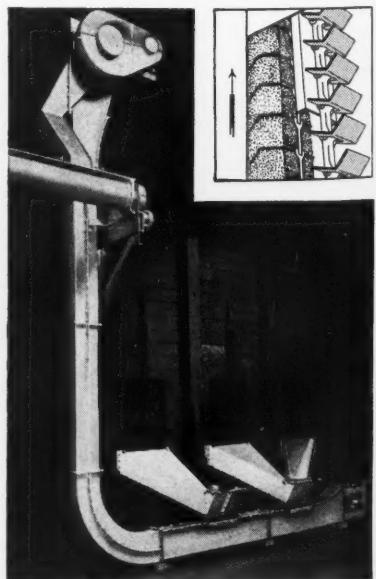
The company's present tankers have been allowed to carry an additional load equivalent to two and one-half ocean-size tankers.

As further assistance in the fight against shortages, an \$8,000,000, 236-mile pipe line from Portland to Montreal will be in service by December 1, saving the equivalent of four tankers. Previously, fuel was carried around Nova Scotia and through the St. Lawrence River.

Cost of producing gasoline from crude oil transported to Eastern refineries by rail and pipe line is expected to be higher by one cent a gallon than if the crude supplies had been brought in by tanker.

Radiant Heat—Panels containing steam or hot water pipes, built into the ceiling, walls, or floor are the sources of heat in some of the country's newest

CONVEYOR—Up, down, sideways, and around curves go pulverized, granular, crushed, or ground materials defined as loose, flowable, and non-corrosive, carried by the inverted scoops of the Bulk-Flo conveyor, Link-Belt Company, Chicago, Ill. Self-feeding, self-discharging, self-clearing, it has capacities of one to 140 tons an hour. Below, one moves coal up from the bins.



DUN'S REVIEW

buildings. The system is known as radiant heating.

Unlike the conventional steam radiator which heats the air in a room, radiant heat panels warm its largest surface areas. Primary effect of radiant heating is to permit people within the room to generate and dissipate bodily heat at the proper rate for comfort. As a secondary effect the panels gradually warm the room atmosphere.

Dissipation of body warmth amounts to about 400 Btu's an hour. Under normal conditions, almost half this heat is radiated to nearby cold objects. The remainder is lost to the air by convection and by evaporation.

Radiators prevent too rapid a convection heat loss, but until warmed air heats the nearby cold surfaces, the larger amount of body heat loss by radiation continues. That's why, on an icy morning, you can stand by a steaming radiator and still feel all the heat go out of you. Apparently, too—and the technical explanation is long—it's more comfortable in a room with warm walls and cold air than in one with cold walls and warm air.

Installed—Several variations of radiant heating are in use. Most installations are in Europe, where the Crittal System was introduced before 1914. Its American licensees are heating and ventilating engineers Wolff & Munier, New York. First installation here was the British Embassy, Washington, D. C., in 1928. One of the latest is in the home of Pierre S. duPont, 3rd. About 15 of some 100 U. S. installations use the Crittal System. It involves the use of pipe coils concealed in the ceilings of rooms carrying warm water.

The oldest American installation other than by the Crittal system was at Phipps Psychiatric Clinic, Johns Hopkins Hospital, Baltimore, 1911. Others were made at the Riverwood Inn, Schenectady, 1915; and at the Sacred Heart Church, Pittsburgh, 1928.

A recent use of radiant heating as a supplement to air condition heating appears in the Bankers Life Company Building, Des Moines, Iowa. Here copper piping has been built into the walls. Another application is found in the modernistic office building of Johnson Wax Company, Racine, Wis., designed by Frank Lloyd Wright. Wrought iron steam pipes are embed-

It kills HIDDEN fires!

**Reaches around
corners . . . behind
obstructions!**



MAYBE your extinguishers can handle most fires . . . can snuff out ordinary blazes. But what about the *extra-dangerous* fires?

LUX extinguishers beat these blazes to the punch, with a blast of carbon dioxide gas, amazingly effective extinguishing agent.

For example, LUX can kill hidden fires . . . those blazes that lurk behind obstructions which baffle liquid-stream extinguishers. LUX gas leaves

the nozzle expanding 45,000%! This terrific force drives the gas into every inch of fire area. LUX penetrates through tiny openings, scoots around corners. *It kills fires you can't even see!*

This is a fire fighting *plus* that you get with LUX—both portable extinguishers and built-in systems. It is one more reason why LUX protection means *added* protection, greater safety.

Here are the *PLUS* values in fire-fighting

- 1 LUX carbon dioxide gas is one of the fastest known extinguishing agents.
- 2 LUX extinguishers are effective on both electrical and flammable liquid fires.
- 3 LUX gas is clean, non-damaging, non-contaminating, non-toxic.
- 4 45,000% expansion drives LUX gas throughout fire area, despite obstructions.
- 5 Annual recharging is not necessary with LUX. Simply weigh periodically.
- 6 LUX service depots are maintained in principal cities.



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ded in the slabs of concrete flooring.

Industrial installations of radiant heating, besides that at Johnson Wax Company, include the factory office of Sarco Company, Inc., in Bethlehem, Pa.; office of the Greenville Steel and Foundry Company, Greenville, S. C.; an experimental installation by Detroit Edison; and the shop building of Melrose Sheet Metal Works, Oakland, Cal., where it was so popular that union mechanics publicized it through their union. The floor of an airplane factory in California is also radiant heated.

A Radiant Heating section of *Heating and Ventilating*, March 1941, reports 84 known installations and 13 more proposed. In addition to those of Frank Lloyd Wright and of the Crittal System, a number are the work of Robert Bruen, Oakland, Cal., R. V. Hall, Port Allegany, Pa., and R. M. McCormick, Columbus, Ohio.

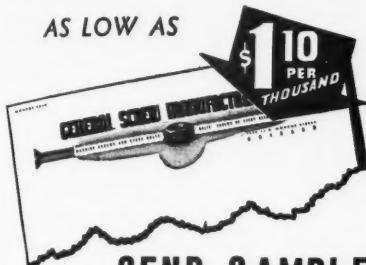
Cost of installing a radiant heat system may range from that of a concealed-radiation hot water system to 50 per cent more, depending on such things as geographic location and glass area. Costs of operation are about one-third less. This is backed up by statements in a bulletin, *Heating by Radiant Means*, by T. Napier Adlam, Chief Engineer of Sarco Co., Inc. A saving of between 30 and 40 per cent in fuel is estimated under some conditions. Part of this results from the storage of heat in a floor or ceiling for some time after the furnace is turned off.

ACOUSTIC—Studios of stations WFAA and KGKO, Dallas, Tex., have wave-like walls specially designed to preserve tone without allowing distortion or reverberation.



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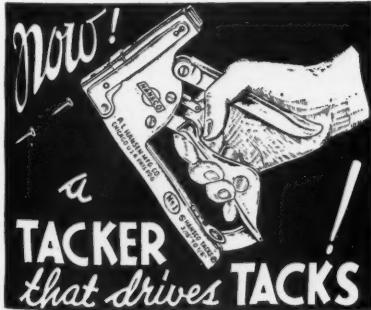
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ASK FOR
FOLDER

[45]

Wall insulation may or may not be used, depending on the building and the architect. Temperature of panel surfaces varies from 80°F to 120, depending on location of the panel.

The serpentine waves of pipe used may be either copper, steel, or wrought iron. Use of the latter has been aggressively promoted by A. M. Byers Company, Pittsburgh, Pa., which will report on its success in numerous installations before you can snap, "thermal conductivity."

Solu-Bridge—One way to invent a new product is to examine a known but generally ignored phenomena, putting the results to practical use. This Industrial Instruments, Inc., Jersey City, N. J., did; and from their analysis concocted solu-bridge. The solu-bridge, despite its strange name, contains nothing more complicated than a contact which passes electricity through water, a measuring apparatus which shows how much resistance the current encountered, and an automatic "electric eye" controller.

The established phenomena under examination was: Water is an electrical conductor. And the new product that came from the study is an automatic measuring machine which indicates, by the amount of resistance offered to the electricity, how pure the water is. Pure water is a comparatively poor conductor.

Uses for the solu-bridge, or for more elaborate variations of it, include checking the purity of distilled water, boiler water, steam condensate, the output of water treatment equipment, the operation of surface condensers of steam power plants—into which brine or other cooling agents may leak.

Music—One of the unusual things about this war is its lack of martial music. Remember how the Australians captured Bengazi in February to the tune of "We're off to see the Wizard, the Wonderful Wizard of Oz"?

In this country about the closest approach to a "Battle Hymn of the Republic" has been "God Bless America." The production lines, however, whistle such melodies as "Little Joe," from "Destry Rides Again," and "Pepsi-Cola Hits the Spot," two favorites at Sperry's in Brooklyn.

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FOR MANAGEMENT EXECUTIVES: THE ECONOMIC JOURNAL, DUN'S REVIEW



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During the past year Household Finance loans have helped over half a million men and women to pay medical expenses, keep insurance in force, clean up old debts and maintain family living standards.

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Borrowers repay their loans in small monthly installments. The table below shows sample repayment schedules. Installments include charges at the rate of 2½% per month (less in many territories on larger loans). Household's charges are substantially below the maximum established by the Small Loan Laws of most states. Borrowers pay charges only for the actual time they have the money. They may repay in full at any time.

WHAT BORROWER GETS					
	WHAT BORROWER REPAYS MONTHLY				
	2 payments	6 payments	12 payments	15 payments	18 payments
\$ 20	\$ 10.38	\$ 3.63	\$ 1.95		
50	25.94	9.08	4.87		
100	51.88	18.15	9.75	\$ 8.08	\$ 6.97
150	77.82	27.23	14.62	12.11	10.45
200	103.77	36.31	19.50	16.15	13.93
250	129.71	45.39	24.37	20.19	17.42
300	155.65	54.46	29.25	24.23	20.90

Above payments include charges of 2½% per month and based on prompt payment are in effect in seven states. Due to local conditions, rates elsewhere vary slightly.

Household's staff of home economists gives borrowers practical assistance in budgeting and buying—helps families to become better managers and wiser buyers. Many schools and colleges use as texts Household's helpful booklets on money management and buymanship.

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THE RÔLE OF MANAGEMENT AS INNOVATOR

(Continued from page 15)

holder. This is an impossibility in many present-day enterprises. While the general level of business management today is of high caliber, undoubtedly trying to administer the affairs of the company efficiently, there is still the possibility of dishonest managements, and the even greater difficulty of mediocre managements. For my own part, the most promising immediate solution is to strengthen Boards of Directors. Management itself should have only minority representation. And among the members of such a Board should be several individuals of high caliber and judgment, who devote sufficient time to the affairs of the enterprise to speak with authority concerning its policies and attitudes.

The Future of Innovation

FOR THE IMMEDIATE present, there is little need to worry about the inflexibility of business management. New driving forces are here, and business managers will need all their ingenuity and ability to solve their own problems. Hardly a giant enterprise but is shaken by the impact of the defense program. It is interesting to read of Procter & Gamble and Johns-Manville operating shell-loading plants, and Coca-Cola, Goodyear, and Sherwin-Williams running bag-loading plants. Business is faced with problems or raw material shortages, new products to produce, and inability to satisfy the usual customers.

This great upheaval cannot help but have a counter-upheaval whenever the defense effort is terminated. So the next few years will be a period for the innovators, the progressive managements not deep in customary ruts and bound by habit and inertia, but ready to adjust to new circumstances and to face new problems. But this should not be allowed to disguise the basic situation. There are dangerous underlying tendencies making for inflexibility, eliminating the innovators from the seats of power. Business is threatened with the evils which we have come to associate with the word bureaucracy.

I do not believe that this country has

yet reached its full economic development. One could hardly expect the nineteenth century rates of economic growth to continue indefinitely, any more than that the rate of population increase could have been sustained, or an infant's daily gain in weight can be projected for a lifetime. We need innovation of the old type—making for expansion through new products and processes. I have discussed some of the factors which tend to discourage business management from such innovation—the changing character of competition, the rise of vested interests, the expanding scope of government, and organizational resistance. There is no single path to offsetting these factors, but many steps may contribute to accomplishing that end. The tempo of the past was enough by itself to prevent the development of inflexibilities and to leave the non-progressive far behind. Economic progress seemed to come about automatically. Today, we must plan and work for it.

But the last decade has been characterized chiefly by social innovation. The government has been the chief source of change. Some of the developments have been generalized extensions of programs which had been developed by some business managements long ago, such as pension plans and collective bargaining. Others were developed with considerable industry cooperation, such as the NRA and the investment trust regulation statute. Still others had little support from industry, such as the WPA program and the Public Utility Holding Company Act. These social innovations have not had as their purpose the enhancement of the profits or prestige of any particular enterprise or even any industry. They have rested on the broad authority of the government to act "in the public interest."

It seems clear that this development of government participation in our economic life is no temporary matter. After the depression, the defense period and the post-defense period, we will never return to *laissez faire*, even in the modified form as defined in the twenty-

ties. Business management of the future will therefore operate in a world where, in addition to its own enterprise innovation, there will be a strong external force making social innovations. This will create business problems of adjustment and offer some opportunity for business ingenuity to express itself. However, it poses the even greater problem of the part which business management can and should play in assisting in the determination of social policy.

"Skill will be needed. . . ."

There is no absolute necessity for a successful business man to have judgment and wisdom beyond the determination of what is good for his particular enterprise. But there have been and are business men, from Alexander Hamilton to many of the men in Washington and in this country today, whose vision and understanding is much broader than that. In recent years, our economic system has functioned badly. Today, we cannot see ahead to the business world of the future. Business men are contributing mightily to the present revolution, the transition to a defense economy. Business and government are working, sometimes haltingly, together to a common goal. Similar effort, skill, and co-operation will unquestionably be needed to meet the problems of the future.

The business man as innovator, assuming he wishes to and can be an innovator, a participant in the development of a rapidly developing social and economic scheme, must consider the forces which, plainly speaking, tend to reduce him to the status of administrator. I am saying this without invidious reflection on either government or business, but simply as an observation of what seems to be the fact.

The broad generality which may partly supply the answer lies in the absolute necessity for all sources of power in our social structure—business, government and labor—to seek ways by which the ingenuities of all may be fruitfully utilized. Failure to make such innovations will mean the failure to adapt ourselves to the changing world. Failure leads automatically to the rise of some particular group to dominance. Successful innovation is essential to the preservation of what we now call the democratic process.

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Take away the machinery of management — records — and you sweep right off the board our entire Defense Program. We can't go ahead *without* records, and we can go ahead a lot faster if we gain *greater control* over recorded facts—the **scarcest of all raw materials**, according to a prominent American business man.

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1841 - The Mercantile Agency - 1941

OVER THE EDITOR'S DESK

AUTHOR of the distribution cost accounting analysis (page 16) Lewis E. Rossiter is on the St. Louis staff of Price, Waterhouse & Company. His article follows closely a somewhat more technical presentation in the *Bulletin* of the National Association of Cost Accountants. Mr. Rossiter was graduated from Cornell and took his M.S. at Washington University, St. Louis.



LEWIS E. ROSSITER

IN OCTOBER Dwight Wardell of the REVIEW staff tells about the business of making and distributing business movies. It is an extraordinarily interesting and individualistic phenomena; training and advertising are among the objectives, but there are others, too.

AND THERE is coming from J. K. Lasser of J. K. Lasser & Co., the story of what the hard-to-read terms of the new tax law mean to heads of businesses in effect on financial set-up, operations, and so on. Mr. Lasser is author of the much-used, annual, yellow-covered booklet, *Your Income Tax*.

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ORDERS and Common Sense

*E*FFECTIVE supervision is receiving more attention these days. A company-executive-practitioner likes to direct attention to one of its many facets with this story:

Early one day—so tradition runs—General Washington was told that his most beloved horse was dead in the pasture. Later that morning he said sadly to a soldier: "Go and skin my favorite horse that I may have the hide preserved."

When the soldier returned at dusk, his work done, Washington asked why he had been so long. Said the soldier: "General, that horse was feeling pretty good; it took five hours to catch him."

★

There are times when orders must be obeyed blindly to the letter without any regard to the apparent sense of the situation. But that is dangerous as a complete teaching.

Then, too, the giving of orders is an art in itself. Probably Washington never gave that order just that way.

Norman Smith
MANAGING EDITOR

